

10/538670

Rec'd PCT/PTO 10 JUN 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 December 2005 (22.12.2005)

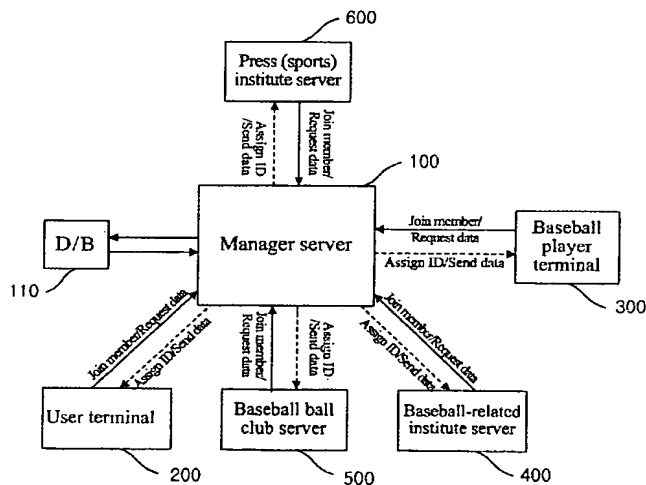
PCT

(10) International Publication Number
WO 2005/121995 A1

- (51) International Patent Classification⁷: G06F 17/00 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number: PCT/KR2005/000998
- (22) International Filing Date: 7 April 2005 (07.04.2005)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data: 10-2004-0041350 7 June 2004 (07.06.2004) KR
- (71) Applicant and
(72) Inventor: HAN, Pil-Soo [KR/KR]; Bamgasi Kuny-
oung Villa 905-302, Ilsan 4-dong, Ilsan-gu, Gyeonggi-do 411-761 (KR).
- (74) Agent: KIM, Jae-Wook; Samhomulsan Bldg. B-1802,
275-6 Yangjae-Dong, Seocho-Gu, Seoul 137-130 (KR).
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYSTEM OF AND METHOD FOR ESTIMATING THE VALUE OF SPORTSMEN USING SPORTS GAME RESULTS EVALUATION MODEL



(57) Abstract: The present invention relates to a system and method for estimating the value of athletes using a game achievement evaluation model, and more particularly, to a system and method for estimating the value of athletes using a game achievement evaluation model, wherein objectified quality evaluation is performed in such a manner that a game situation is classified into attack addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error), 129 game factors are defined based on the classified factors, the assignment principle is set, the game factors are sub-classified into 1277 game situation factors, and the game factors and the game situation factors are given with weights, unlike quantity-based record evaluation by an existing athlete contribution evaluation method. The existing record input method is dependent upon quantitative record only, and thus does not include situation information on how player plays a game under what situation. However, in a newly developed athlete evaluation formula, what achievements obtained by one athlete are generated in what situation can be exactly recorded. At the same time, the flow of a game can be traced.

WO 2005/121995 A1

WO 2005/121995 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**SYSTEM OF AND METHOD FOR ESTIMATING THE VALUE OF SPORTSMEN
USING SPORTS GAME RESULTS EVALUATION MODEL**

Technical Field

5 The present invention relates to a system and method for estimating the value of athletes using a game achievement evaluation model, and more particularly, to a system and method for estimating the value of athletes using a game achievement evaluation model, wherein objectified quality evaluation is performed in such a manner that a game situation is classified into attack addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error), 129 game factors are defined based on the classified factors, the assignment principle is set, the game factors are sub-
10 classified into 1277 game situation factors, and the game factors and the game situation factors are given with weights, unlike quantity-based record evaluation by an existing athlete contribution evaluation method.

20 **Background Art**

 Generally, annual salary calculation (evaluating the value of athletes) is decided through a process in which the game capability contributed by athletes, the publicity of a team, the capability of mobilizing spectators, and the future
25 game capability are selected as evaluation items, game contents

of athlete during play are sub-divided and evaluation of merits is averaged in order to perceive them, external game factors are added fixed based on them, and both a ball club and athletes discuss about the merits and demerits related to the annual salary while confronting with each other. In selecting the game capability having the highest important thing as the evaluation items and then applying it, however, the athlete and the ball club have a competitive position about the amount of the salary due to their subjective positions even after an agreement is reached. Thus, the amount of profits held by both is in reverse proportion to each other.

This results in a distributive outcome in which the greater the profit given to one side, the smaller the profit given to the other side even after the agreement is reached. The fundamental cause of this problem lies in that there does not exist a common objective calculation method in which the evaluation items of the game capability are sub-divided and evaluation of merits is decided. That is, existing evaluation methods are obviously inclined to be subjective. Due to this, points that must be recognized as the merits to both sides are recognized as damages of a concerned party.

As such, in professional sports industry, although a harmonious annual salary agreement in both sides is the most urgent and acute problem from the viewpoint of sports industry development, there is not a mediation tool, i.e., a direct

calculation model, which is a program related to annual salary calculation. Of course, if an agreement is broken off in a wage negotiation procedure, there are several methods for solving a dispute, such as a mediation or arbitration method of helping
5 concerned parties to reach an agreement through negotiations and bargaining, a method of allowing a third party to assist decision making, a method of allowing the legitimate authority within an organization to make decision as a substitute, and a lawsuit method in which a dispute is solved according to a
10 strict law court procedure by a judicial officer based on public power of the country. These methods are, however, insufficient to evaluate the degree of contribution by athletes in an objective manner.

In existing searches ("Annual Salary Calculation Model of
15 Korean Baseball Athlete" by Kim Eung-Sik, a doctoral thesis of SUNGKYUNKWAN UNIVERSITY GRADUATE SCHOOL, 1998, "Development of Annual Salary Calculation Model of Korean Football Athlete" by Sin Mun-Sun, a doctoral thesis of SEJONG UNIVERSITY GRADUATE SCHOOL, (2003), in order to present the annual salary
20 calculation model, annual salary calculation types that are practiced in respective ball clubs are analyzed, and how much are internal and external factors affecting annual salary calculation occupied in annual salary calculation by what percentage based on opinions regarding annual salary
25 calculation of pertinent ball clubs through questionnaires.

They, however, do not present any tool capable of calculating factors that describe the annual salary only based on game achievements being the internal results of athletes. In other words, in existing game achievement record methods, only a
5 quantitative record based on quantitative values is carried out on the basis of the capability of an athlete. There does not exist a qualitative record method considering a relative side including negative values of internal game achievements being an actual ability of an athlete.

10 Therefore, there is a need for a model which can generates and present factors becoming the basis for a model necessary for annual salary negotiations by developing a method capable of recording, evaluating and recording the ability of athletes in a qualitative manner.

15 Meanwhile, a procedure for annual salary trade of professional basketball athletes will now be described. In case of U.S. NBA (National Basketball Association), an agent is entrusted with negotiations. In case of KBL (Korea Basketball League), an agent is not permitted for negotiations. A
20 concerned party directly negotiates through discussion with the family, etc. Thus, the concerned party is fundamentally weak in legal problems generated when an agreement is reached or is broken off. As a result, the athlete is not well prepared for negotiations compared to the persons related to ball clubs, who
25 have relatively lot of experience. Furthermore, under the

situation in which there does not exist proper annual salary calculation that can be used for a negotiation process, the contracting parties have to understand each other based on a formal calculation method. This makes the contracting parties
5 to have unclear feelings even after the annual salary agreement is reached. It is estimated that this phenomenon results from the fact that the contracting parties negotiate only formal results in a state where qualitative contents depending on situations occurring during play are not considered because an
10 existing writing method of recording game contents can perform only quantitative calculation.

Accordingly, an athlete evaluation tool, which sufficiently considers vocational characteristics of athletes, gropes for the rationality in view of business management of
15 ball clubs, and is needed for a wage negotiation procedure that induces common people to actively participate in the procedure, is very important. There are, however, almost no precedent researches into this tool due to absence in the necessity, a difficulty in performing the researches, etc.

20 Furthermore, if professional sports are to be advanced, a dissonance between ball club and athletes is small, a measurement tool capable of exactly determining an actual ability of an athlete must be developed, and a system in which the tool is transferred to spectators must be precedent. In
25 this case, the spectators will have more interest in sports

games. Game factors and an athlete evaluation formula for current athlete evaluation, however, are subjective, and have a limit to the use rationally. Since basketball was originally invented, game rules were set, and game was played among groups, 5 research matters for the development of factors necessary to evaluate athlete are wholly lacking. Corporation aggregates that manage professional leagues or respective ball clubs have made an effect to manipulate and change the game factors from the viewpoint of spectators, but rarely have strived to develop 10 a model in which spectators, athletes and leaders are made get interested, and game results are analyzed and adapted. That is, the existing athlete evaluation method set an absolute reference and does not use other subjective and willful evaluation.

15 However, this method is impossible to present probability data based on game achievement since it is not a method in which game contents are not recorded on a situation basis. It is thus inevitable that all factors including athlete directions of directors or coaches and operation conception 20 during play are subjected to sensual, subjective and empirical decision. This situation causes distrust among parties concerned due to the unreasonable evaluation method in which low annual salary is provided contrary to good game achievement in deciding the athlete annual salary. As such, there is a 25 problem in that such a behavior in which a fundamental problem

of sports has not been researched adds confusion in perceiving and understanding spectators.

Furthermore, in the Korean baseball industry, the position-based power ranking formula of Sports Chosun, which is
5 a method of evaluating the ability of athletes will now be examined. In this method, records of athletes are converted on the basis of 40 minutes, the rankings are decided on an item basis, and all the ranks are summed to decide the ranking. If the sum is lower, it belongs to higher ranking. The reason why
10 the 40-minute unit is adopted instead of an average game record in the basis method is that an average game participation time is different every athlete. In other words, an athlete who participates in game for average 30 minutes and an athlete who participates in game for average 20 minutes cannot be compared
15 in a simple manner. Accordingly, a total of game participation time is converted into the number of games and is then divided by records. That is, in this method, an athlete is evaluated based on a record that is obtained on average per game. Instead, an athlete who has lots of game participation time is
20 considered to have a high degree of contribution to a team. Thus, an average game participation time item is created and included in the total record. Such an evaluation formula can be expressed into "record \times 40 / total game participation time) = ranking.

25 In Sports Chosun newspaper (dated February 14, (2003), in

evaluating the ability of an athlete, items that belong to a common evaluation factor in each position includes game participation time, the number of successful two-point shoots, the ratio of successful two-point shoots, the ratio of
5 successful free throw, assists, fouls, snatches, errors and scores; the number of successful three-point shoots, the ratio of successful three-point shoots and rebounds when evaluating point guard, shooting guard and small forward; and attack rebound, defense rebound and block shooting, which are
10 additional evaluation factors, when evaluating power forward and center. On the assumption that a position-based role can be identified in a game, it is reasonable to decide the ranking using other references depending upon positions.

As such, Power Ranking is useful in a sense. As athletes
15 having different positions cannot be compared, however, there is a disadvantage in that the whole athletes cannot be compared with each other.

First, rank values vary according to the numerical values of the same items depending upon which position does an athlete
20 has. It is thus not meaningful to compare athletes that belong to different categories, i.e., have different positions. In order to evaluate the total ranking of athletes, all the athletes must be evaluated equally based on objectified numerical values not the rank selection method. Other
25 references applied to respective positions must be objective

classifications that are obtained through various opinions. If they do not have the objectivity, application to other references on a position basis may result in significant error.

Second, if the rank is selected based on absolute numerical values upon selection of parameters, a problem arises. An example is as follows.

A	B
Total number of 2 points; Number of successful 2 points; The ratio of successful 2 points	
200 : 100 : 50%	100 : 80 : 80%

Assuming that the above table was obtained under the condition in which two players A, B have the same game participation time, considering the number of successful 2 points and considering the ratio of successful 2 points, in evaluating the two athletes, will have different results depending upon situation. If a team of the player A is strong in rebound, the player A can be evaluated to have a higher ratio of team contribution than that of the player B. On the contrary, if the team of the player A is weak in rebound, the player B can be evaluated to have a higher ratio of team contribution than that of the player A. That is, if the team of the player A is strong in rebound, it will be given with a re-

classifications that are obtained through various opinions. If they do not have the objectivity, application to other references on a position basis may result in significant error.

Second, if the rank is selected based on absolute numerical values upon selection of parameters, a problem arises. An example is as follows.

A	B
Total number of 2 points; Number of successful 2 points; The ratio of successful 2 points	
200 : 100 : 50%	100 : 80 : 80%

Assuming that the above table was obtained under the condition in which two players A, B have the same game participation time, considering the number of successful 2 points and considering the ratio of successful 2 points, in evaluating the two athletes, will have different results depending upon situation. If a team of the player A is strong in rebound, the player A can be evaluated to have a higher ratio of team contribution than that of the player B. On the contrary, if the team of the player A is weak in rebound, the player B can be evaluated to have a higher ratio of team contribution than that of the player A. That is, if the team of the player A is strong in rebound, it will be given with a re-

attack chance if the number of shoot throws is many. If the team of the player A is weak in rebound, the exactness of shoot will become a cause of victory and defeat. As a result, although the shoot ratio is lowered, there occurs a case where
5 it does not significantly affect victory and defeat. It cannot be said that the higher the shoot ratio, the higher a cause of victory. It is thus unreasonable to evaluate the superiority and disadvantageous of athletes based on the shoot ratio.

Further, in equal comparison, if an athlete who is low in
10 the shoot ratio has higher goals than that of an object athlete, this can also be said to be the degree of contribution, which is comparable to the shoot ratio. That is, when commanding shooting in a basketball game, a shooter should not shoot at random although there is a shooting chance. Only when shooting
15 is attempted considering whether rebound of a team has been secured when commanding shooting, whether a re-attack right is secured is decided when a ball does not pass through a ring. Thus, only when all shootings related to field shooting are made when they can be checked, game rhythm of a team will be
20 kept. Accordingly, if any team gains an advantage over an opponent team in attack rebound, it can be said that athletes having a high score can be evaluated to have increased the degree of contribution to a team regardless of the shoot ratio when the shooting is one compatible with the above condition.
25 As such, various analyses are possible under various conditions.

Resultantly, since under what condition the athlete A and the athlete B have scored is not considered, it is difficult to exactly evaluate the value of score. The meaning of the evaluation of the athlete is also low. That is, if the values
5 of shooting must be compared not the shoot ratio, the degree of contribution to a team by the athletes will be evaluated depending upon when shooting made by a shooter has a big difference in score, when it is in a seesaw situation or a tie situation, or shooting is successful in a reversal chance.
10 Furthermore, evaluation can be different depending upon shooting by assist of a co-player, or shooting by an individual skill of self-effort. It will be contradiction to say that evaluation is efficiency although it is simple and clear.

Third, rebound is classified into defense and attack in
15 the evaluation factors of power forward and center. It is considered that it is meaningless to divide the rebound under the condition in which there is no additional weight. Although it exists, fouls having a high frequency of occurrence have to be classified into foul that permit a free throw, foul that dos
20 not permit a free throw, foul that provides even free throw permission and attack right, and the like. As such, since erroneous classification may change the rank of contribution among athletes, and influence athlete persons, careful attention must be paid.

25 Accordingly, evaluation based on game achievements of

Resultantly, since under what condition the athlete A and the athlete B have scored is not considered, it is difficult to exactly evaluate the value of score. The meaning of the evaluation of the athlete is also low. That is, if the values
5 of shooting must be compared not the shoot ratio, the degree of contribution to a team by the athletes will be evaluated depending upon when shooting made by a shooter has a big difference in score, when it is in a seesaw situation or a tie situation, or shooting is successful in a reversal chance.
10 Furthermore, evaluation can be different depending upon shooting by assist of a co-player, or shooting by an individual skill of self-effort. It will be contradiction to say that evaluation is efficiency although it is simple and clear.

Third, rebound is classified into defense and attack in
15 the evaluation factors of power forward and center. It is considered that it is meaningless to divide the rebound under the condition in which there is no additional weight. Although it exists, fouls having a high frequency of occurrence have to be classified into foul that permit a free throw, foul that does
20 not permit a free throw, foul that provides even free throw permission and attack right, and the like. As such, since erroneous classification may change the rank of contribution among athletes, and influence athlete persons, careful attention must be paid.

25 Accordingly, evaluation based on game achievements of

athletes is a measure to evaluate the athletes. It is necessary to minimize contradiction and to perform objectification through verification.

5 Disclosure of Invention

Accordingly, the present invention has been made in view of the above problems occurring the prior art, and it is an object of the present invention to provide a system and method for estimating the value of athletes using a game achievement
10 evaluation model, wherein objectified quality evaluation is performed in such a manner that a game situation is classified into attack addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error), 129 game factors are defined based on the classified factors,
15 the assignment principle is set, the game factors are subclassified into 1277 game situation factors, and the game factors and the game situation factors are given with weights, unlike quantity-based record evaluation by an existing athlete contribution evaluation method.

20 Another object of the present invention is to provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein what achievement obtained by one athlete is generated in which situation can be exactly bolki and the flow of game can be estimated according
25 to a newly developed athlete evaluation formula unlike an

existing record input method which is usually dependent upon quantitative record, and does not have situation information on how an athlete plays game under what situation.

Further another object of the present invention is to
5 provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein 129 game factors and 1277 game situation factors are sub-divided to record actual results of athletes, lots of situation factors are presented unlike an existing play record method that makes
10 an attempt to describe lots of things through a small number of game factors, and the situation factors are objectified on a situation basis using weight, helping finding meaningful underground factors, whereby a more efficient annual salary calculation model than an existing athlete contribution
15 evaluation method can be presented.

Further another object of the present invention is to provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein in generating weights in order to evaluate the degree of
20 contribution by athletes, an average is not used as a representative value, but weights are divided by 400 so as to represent that final analysis results are equal to numerical values of goal scores considering the sensitiveness for the number using a median, thereby increasing the sensitivity for
25 the number of athletes and reducing the feeling of refusal

athletes is a measure to evaluate the athletes. It is necessary to minimize contradiction and to perform objectification through verification.

5 Disclosure of Invention

Accordingly, the present invention has been made in view of the above problems occurring the prior art, and it is an object of the present invention to provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein objectified quality evaluation is performed in such a manner that a game situation is classified into attack addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error), 129 game factors are defined based on the classified factors, the assignment principle is set, the game factors are sub-classified into 1277 game situation factors, and the game factors and the game situation factors are given with weights, unlike quantity-based record evaluation by an existing athlete contribution evaluation method.

Another object of the present invention is to provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein what achievement obtained by one athlete is generated in which situation can be exactly bolki and the flow of game can be estimated according to a newly developed athlete evaluation formula unlike an

existing record input method which is usually dependent upon quantitative record, and does not have situation information on how an athlete plays game under what situation.

Further another object of the present invention is to
5 provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein 129 game factors and 1277 game situation factors are sub-divided to record actual results of athletes, lots of situation factors are presented unlike an existing play record method that makes
10 an attempt to describe lots of things through a small number of game factors, and the situation factors are objectified on a situation basis using weight, helping finding meaningful underground factors, whereby a more efficient annual salary calculation model than an existing athlete contribution
15 evaluation method can be presented.

Further another object of the present invention is to provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein in generating weights in order to evaluate the degree of
20 contribution by athletes, an average is not used as a representative value, but weights are divided by 400 so as to represent that final analysis results are equal to numerical values of goal scores considering the sensitiveness for the number using a median, thereby increasing the sensitivity for
25 the number of athletes and reducing the feeling of refusal

Still another object of the present invention is to provide a system and method for estimating the value of athletes using a game achievement evaluation model, wherein if users, baseball players, baseball-related institutes, baseball
5 ball clubs and press (sports) institutes request the degree of athlete contribution by athletes or athlete ball clubs, a settlement number is authenticated in financial institute/credit card companies/mobile communication company billing servers before settlement, settlement is performed in a
10 payment system server, and a communication service company server transmits settlement information, transmission information, etc. to corresponding terminals and servers via e-mail, SMS of mobile phones, or the messenger.

To accomplish the objects of the present invention, there
15 is provided a system for estimating the value of athletes using a game achievement evaluation model, the system comprising:

a manager server having a function of receiving a member joining request when a user, a baseball player, a baseball-related institute, a basketball ball club and a press (sports)
20 institutes have access to a web site in order to know the degree of contribution for qualitative evaluation of the athletes or the athlete ball clubs for the purpose of annual salary calculation of professional athletes, the scout of amateurs and mercenary scout, an athlete draft, an athlete
25 trade, etc., a function of registering members and assigning

Ids to the members, a function of storing and managing the members who joined the web site in a manager server DB, and a function of, with the degree of contribution by the athletes being classified into attack.addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error) according to game situations, setting 129 game factors based on the classified factors, setting the game factors to detailed 1277 game situation factors, assigning numerical values to the game factors and the game situation factors with a different weight, and sending quantitative results to a corresponding server or terminal if the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institutes request the results through the server or terminal; a user terminal having a function of having access to a web site within the manager server to make requests for member joining in order to know the degree of contribution for qualitative evaluation of the athletes or the athlete ball club for the purpose of annual salary calculation of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server after becoming a member, and a function of requesting the degree of quantitative contribution of the athletes to the manager server, and receiving the degree of contribution data of the athletes; a

baseball player terminal having a function of having access to a web site within the manager server to make requests for member joining in order to know the degree of contribution for qualitative evaluation of the athletes or the athlete ball club

5 for the purpose of annual salary calculation of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server after becoming a member, and a function of requesting the degree of

10 quantitative contribution of the athletes to the manager server, and receiving the degree of contribution data of the athletes; a baseball-related institute server having a function of having access to a web site within the manager server to make requests for member joining in order to know the degree of

15 contribution for qualitative evaluation of the athletes or the athlete ball club for the purpose of annual salary calculation of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server

20 after becoming a member, and a function of requesting the degree of quantitative contribution of the athletes to the manager server, and receiving the degree of contribution data of the athletes; a basketball ball club server having a function of having access to a web site within the manager

25 server to make requests for member joining in order to know

the degree of contribution for qualitative evaluation of the athletes or the athlete ball club for the purpose of annual salary calculation of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server after becoming a member, and a function of requesting the degree of quantitative contribution of the athletes to the manager server, and receiving the degree of contribution data of the athletes; a press (sports) institute server having a function of having access to a web site within the manager server to make requests for member joining in order to know the degree of contribution for qualitative evaluation of the athletes or the athlete ball club for the purpose of annual salary calculation of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server after becoming a member, and a function of requesting the degree of quantitative contribution of the athletes to the manager server, and receiving the degree of contribution data of the athletes; a financial institute/credit card company/mobile communication company billing server having a function of receiving an authentication request for one or a plurality of financial information, card information and mobile communication information, which are settlement numbers of the user, the

baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute, from the manager server, and a function of comparing one or a plurality of financial information, card information and mobile communication information with information stored in a corresponding database among the financial institute server, the credit card company server and the mobile communication company billing server, and sensing the authentication result to the manager server; a payment system server having a function of receiving one or the plurality of the settlement numbers among the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute, who are authenticated by the financial institute/credit card company/mobile communication company billing server, from the manager server, and a function of confirming the settlement number and then sending the settlement results to the manager server; and a communication service company server having a function of receiving the degree of contribution information of the players and the settlement information from the manager server after being settled by the settlement system server, and a function of sending the degree of contribution information by the players and the settlement information, which are received from the manager server, to a terminal, a user or a baseball player mobile phone of the user, the baseball player, the baseball-

related institute, the basketball ball club and the press (sports) institute via e-mail, SMS of a mobile phone, a messenger, etc.

There is provided a system as claimed in claim 1, wherein

5. the manager server comprises:

a member subscription unit for allowing the user, the baseball player, the baseball-related institute, the baseball ball club, the press (sports) institute, etc. to request member joining through the server or terminal; a member permission
10 unit for authorizing the member joining, and then assigning an ID to the member; a member information database (DB) for storing and managing members; an athlete contribution degree database (DB) for storing and managing the degree of contribution by athletes; a game factor unit including an
15 attack addition game factor unit indicating attack contribution portions such as team morale increase contribution addition generated by a game situation of an athlete, an attack subtraction game factor unit indicating attack error portions such as point acquisition cancellation error subtraction, a
20 defense addition game factor unit indicating defense contribution portions such as full possible losing point dissipation contribution addition, and a defense subtraction game factor unit indicating defense error portions such as full self-blame possible losing point error subtraction; an 1277
25 game situation factor unit including an attack addition game

situation factor unit indicating detailed items of attack
addition game factors indicating attack contribution portions
generated by a game situation of an athlete, an attack
subtraction game situation factor unit indicating detailed
5 items of attack subtraction game factors indicating attack
error portions, a defense addition game situation factor unit
indicating detailed items of defense addition game factors
indicating defense contribution portions, and a defense
subtraction game situation factor unit indicating detailed
10 items of defense subtraction game factors indicating defense
error portions; a median setting unit for setting
representative values for respective detailed items that
constitute the game factor unit and the game situation factor
unit; a weight setting unit for multiplying the game factor
15 median and the game situation factor median set in the median
setting unit; and a contribution degree calculation unit for
calculating the degree of contribution by athletes based on a
difference between addition factors including contribution
factors for attack and defense addition to which weights are
20 applied, and subtraction factors including error factors for
attack and defense subtraction to which weights are applied.

To accomplish the objects of the present invention, A
method of estimating the value of athletes using a game
achievement evaluation model, wherein a member subscription
25 process comprises the steps of:

allowing one or a plurality of a user, a baseball player, a baseball-related institute, a basketball ball club and a press (sports) institute to have access to a web site through a manager server; allowing one or a plurality of the user, the
5 baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute to make requests for member joining to a member subscription unit; allowing a member permission unit of the manager server to decide whether to allow authorization; if the authorization is not allowed,
10 allowing the member joining to be rejected, and if the authorization is allowed, allowing the member joining to be allowed; if one or a plurality of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute is allowed to be a member,
15 allowing the manager server to assign IDs to one or a plurality of terminals or servers of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute through the member permission unit; and allowing the manager server to store the IDs in the member
20 information database.

Also a method of estimating the value of athletes using a game achievement evaluation model, wherein a value calculation process comprises the steps of:

(a) allowing a game factor unit within a manager server
25 to set attack addition game factors of 41 items, attack

subtraction game factors of 34 items, defense addition game factors of 30 items and defense subtraction game factors of 24 items; (b) allowing a game situation factor unit within the manager server to set game situation factors of 1227 items for each of the items of the attack addition game factors, the items of the attack subtraction game factors, the items of the defense addition game factors and the items of the defense subtraction game factors; (c) allowing a median setting unit within the manager server to set the median for each of the game factors and the game situation factors under the game situation principle for the attack addition game factors, the attack subtraction game factors, the defense addition game factors and the defense subtraction game factors; (d) allowing a weight setting unit within the manager server to set weight for each of the game situation factors under the game situation principle for the attack addition game factors, the attack subtraction game factors, the defense addition game factors and the defense subtraction game factors to (each game factor median \times each game situation factor median) \div 400; (e) allowing a contribution degree calculation unit within the manager server to calculate the degree of game contribution by the athletes from the game situation factors, the weight, etc, as addition factors (a game situation factor \times a corresponding weight) - a subtraction factor (a game situation factor \times a corresponding weight); and (f) calculating the value of the

athletes based on the degree of game contribution.

Furthermore, the method as claimed in claim 4, wherein in step (a), detailed items of the attack addition game factor unit include full shooting capture ability contribution addition, shooting chance capture ability contribution addition, possible losing point removal contribution addition, full team morale-inspired contribution addition, team morale-inspired contribution addition, high degree-skill contribution addition, full disadvantage overcome ability contribution addition, disadvantage overcome ability contribution addition, disadvantage overcome fail contribution addition, full point-possible securing contribution addition, score-possible providing contribution addition, score record cancellation-considered contribution addition, full score chance ability loss contribution addition, point chance ability loss contribution addition, alternate score additional contribution addition, lucky score addition contribution addition, indirect chance fostering contribution addition, direct chance assistance contribution addition, indirect chance sacrifice contribution addition, direct chance sacrifice contribution addition, athlete defense shrinkage contribution addition, opponent team defense shrinkage contribution addition, attack time re-application contribution addition, full point cooperation contribution addition, point cooperation contribution addition, teamwork completion cooperation

contribution addition, teamwork cooperation contribution
addition, positive participation contribution addition,
shooting chance cooperation contribution addition, full
shooting chance cooperation contribution addition, swift attack
5 cooperation contribution addition, full swift attack
cooperation contribution addition, possession acquisition
contribution addition, free throw possession ability
contribution addition, full possession acquisition contribution
addition, possession acquisition-side contribution addition,
10 score record acquisition contribution addition, opponent
teamwork degeneracy contribution addition, opponent team
formation obstruction contribution addition, opponent defense
disturbance contribution addition and right shooting timing
contribution addition; detailed items of the attack subtraction
15 game factor unit include point acquisition cancellation error
subtraction, direction team-moral degeneracy error subtraction,
indirect team moral degeneracy error subtraction, possession-
possible chance removal error subtraction, possession loss
providing error subtraction, indirect possession loss providing
20 error subtraction, possession loss-possible providing error
subtraction, possible losing point providing error subtraction,
indirect possible losing point providing error subtraction,
full possible losing point providing error subtraction, score-
possible removal error subtraction, indirect score-possible
25 removal error subtraction, full score chance dissipation error

subtraction, indirect score chance dissipation error
subtraction, general full score chance dissipation error
subtraction, general indirect score chance dissipation error
subtraction, game basic capability lack error subtraction,
5 score addition chance dissipation error subtraction, victory
factor removal error subtraction, unreasonable shooting attempt
error subtraction, right shooting timing lack error subtraction,
teamwork cooperation lack error subtraction, full teamwork
cooperation lack error subtraction, positive participation lack
10 error subtraction, full positive participation lack error
subtraction, prediction ability lack error subtraction,
personal defense shrinkage load error subtraction, team member
personal defense shrinkage load error subtraction, team defense
shrinkage degeneracy error subtraction, teamwork lowering
15 fostering error subtraction, teamwork formation obstruction
error subtraction, instant chance cooperation lack error
subtraction, opponent swift attack-possible chance assignment
error subtraction and opponent free throw-possible assignment
error subtraction; detailed items of the defense addition game
20 factor unit include full possible losing point dissipation
contribution addition, possible losing point dissipation
contribution addition, full losing point allowance dissipation
contribution addition, possession acquisition-possible
assignment contribution addition, shooting fail factor
25 assignment contribution addition, full shooting fail factor

assignment contribution addition, shooting mental shrinkage
contribution addition, counter team morale lowering
contribution addition, direct the other party morale lowering
contribution addition, possible losing point previous removal
5 contribution addition, game rhythm interception contribution
addition, teamwork stability opponent assignment contribution
addition, losing point minimum-possible assignment contribution
addition, optimal defense ability contribution addition, full
optimal defense ability contribution addition, defense positive
10 participation contribution addition, full defense positive
participation contribution addition, teamwork assistance
contribution addition, error inducing factor assignment
contribution addition, full error-inducing assignment
contribution addition, score chance-possible assignment
15 contribution addition, full score-possible assignment
contribution addition, the other party personal defense
shrinkage contribution addition, opponent team defense
shrinkage contribution addition, defense confusion recovery
contribution addition, possession acquisition contribution
20 addition, opponent teamwork formation obstruction contribution
addition, opponent team member formation obstruction
contribution addition, swift attack-possible chance providing
contribution addition and positive sacrifice participation
contribution addition; and detailed items of the defense
25 subtraction game factor unit include minimum self-blame losing

point assignment error subtraction, full self-blame losing
point assignment error subtraction, full self-blame possible
losing point error subtraction, maximum self-blame losing point
assignment error subtraction, countermeasure absence losing
5 point error subtraction, countermeasure absence possible losing
point error subtraction, countermeasure absence-inducing error
subtraction, assistance self-blame losing point-considered
error subtraction, assistance self-blame-possible losing point-
considered error subtraction, situation coping ability lack
10 error subtraction, assistance coping ability lack error
subtraction, basic defense ability lack error subtraction,
indirect opponent team morale-inspired error subtraction,
direct opponent team morale-inspired error subtraction,
personal defense shrinkage error subtraction, personal defense
15 shrinkage fostering error subtraction, team defense shrinkage
fostering error subtraction, mentality control ability lack
error subtraction, opponent teamwork consolidation chance
providing error subtraction, teamwork collapse curse providing
error subtraction, possible losing point increase-induced error
20 subtraction, game flow prevention ability lack error
subtraction, team-pattern confusion assignment error
subtraction and team member formation difficulty providing
error subtraction 9.

Moreover the method as claimed in claim 4, wherein in
25 step (b), the game situation factors for the items of the

attack addition game factors, the items of the attack subtraction game factors, the items of the defense addition game factors, and the items of the defense subtraction game factors are divided into 7 items, 13 items, 21 items, 5 items, 9 items, 12 items and 4 items, the 7 items are contribution in disadvantageous point (over -7) situation, contribution in advantageous point (over +7) situation, contribution in disadvantageous point seesaw approach (-6 ~ -4) situation, contribution in advantageous point seesaw approach (+6 ~ +4) situation, contribution in disadvantageous point seesaw (-1 ~ -3) situation, contribution in advantageous point seesaw (+1 ~ +3) situation and contribution in tie situation; the 13 items are contribution in disadvantageous point (over -7) situation, contribution in advantageous (over +7) situation, disadvantageous point seesaw approach (-6 ~ -4) entry possible contribution in an advantageous point situation (over -7), disadvantageous point situation (over +7) entry-possible contribution in a disadvantageous point seesaw approach situation (+6 ~ +4), contribution within disadvantageous point seesaw approach (-6 ~ -4) in disadvantageous point seesaw approach (-6 ~ -4) situation, possible contribution within disadvantageous point seesaw approach (+6 ~ +4) in a seesaw approach (+6 ~ +4) situation, disadvantageous point seesaw situation (-1 ~ -3) entry-possible contribution in an advantageous point seesaw approach situation (-6 ~ -4),

disadvantageous point seesaw approach situation (+6 ~ +4)
 entry-possible contribution in a disadvantageous point seesaw
 situation (+1 ~ +3), possible contribution within a
 disadvantageous point seesaw situation (-1 ~ -3) in a
 5 disadvantageous point seesaw situation (-1 ~ -3), possible
 contribution within a disadvantageous point seesaw situation
 (+1 ~ +3) in a disadvantageous point seesaw situation (+1 ~ +3),
 tie situation entry-possible contribution in a disadvantageous
 point seesaw situation (-1 ~ -3), disadvantageous point seesaw
 10 situation (+1 ~ +3) entry-possible contribution in a tie
 situation, and disadvantageous point seesaw situation (+1 ~ +3)
 entry-possible contribution in a disadvantageous point seesaw
 situation (-1 ~ -3); the 21 items are Point in disadvantageous
 point (over -7) situation, Point in advantageous (over +7)
 15 situation, a disadvantageous point seesaw approach (-6 ~ -4)
 entry point in an advantageous point situation (over -7), a
 disadvantageous point situation (over +7) point in a
 disadvantageous point seesaw approach (+6 ~ +4) situation, a
 point within a disadvantageous point seesaw approach (-6 ~ -4)
 20 in an advantageous point seesaw approach (-6 ~ -4) situation, a
 point within a disadvantageous point seesaw approach (+6 ~ +4)
 in a disadvantageous point seesaw approach (+6 ~ +4) situation,
 a disadvantageous point seesaw situation (-1 ~ -3) point in a
 disadvantageous point seesaw approach (-6 ~ -4) situation, a
 25 disadvantageous point seesaw approach situation (+6 ~ +4) point

in a disadvantageous point seesaw situation (+1 ~ +3), a point
 within a disadvantageous point seesaw situation (-1 ~ -3) in a
 disadvantageous point seesaw situation (-1 ~ -3), a point
 within a disadvantageous point seesaw situation (+1 ~ +3) in a
 5 disadvantageous point seesaw situation (+1 ~ +3), a tie
 situation point in a disadvantageous point seesaw situation (-1
 ~ -3), a disadvantageous point seesaw situation (+1 ~ +3) point
 in a tie situation, a disadvantageous point seesaw situation
 (+1 ~ +3) point in a disadvantageous point seesaw situation (-1
 10 ~ -3), a tie point simultaneously with attack time end or
 quarter end in a disadvantageous seesaw situation (-1 ~ -3), a
 reverse point simultaneously with attack time end or quarter
 end in a disadvantageous seesaw situation (-1 ~ -3), a reverse
 point simultaneously with attack time end or quarter end in tie
 15 situation, a tie point in last attack with game end time being
 left several seconds in a disadvantageous seesaw situation (-1
 ~ -3), a reverse point in last attack with game end time being
 left several seconds in a tie situation, a tie point
 simultaneously with game end buzzer in a disadvantageous seesaw
 20 situation (-1 ~ -3), a reverse point simultaneously with game
 end buzzer in a disadvantageous seesaw situation (-1 ~ -3) and
 a reverse point simultaneously with game end buzzer in tie
 situation; the 5 items are one foul record, a second foul
 record, a third foul record, a fourth foul record and a walkout
 25 foul record; the 9 items are walk-out in extra game and one or

more participation stops, walk-out after five minutes in the fourth quarter, walk-out before five minutes in the fourth quarter, walk-out after five minutes in the third quarter, walk-out before five minutes in the third quarter, walk-out after five minutes in the second quarter, walk-out before five minutes in the second quarter, walk-out after five minutes in the first quarter, and walk-out before five minutes in the first quarter; the 12 items are shooting error in a disadvantageous point (over -7) situation, shooting error in an advantageous point (over +7) situation, shooting error in a disadvantageous point seesaw approach (-6 ~ -4) situation, shooting error in a disadvantageous point seesaw approach (+6 ~ +4) situation, shooting error in a disadvantageous point seesaw situation (-1 ~ -3), shooting error in a disadvantageous point seesaw situation (+1 ~ +3), shooting error in a tie situation, tie shooting error in the last attack with several seconds being left before a game ends in a disadvantageous point seesaw situation (-1 ~ -3), reverse point shooting error in the last attack with several seconds being left before a game ends in a tie situation, tie shooting error simultaneously with a game end buzzer in a disadvantageous seesaw situation (-1 ~ -3), reverse point shooting error simultaneously with a game end buzzer in a disadvantageous seesaw situation (-1 ~ -3), and reverse point shooting error simultaneously with a game end buzzer in a tie situation; and the 4 items are an advantageous

and disadvantageous situation (over ± 7 points), an advantageous and disadvantageous seesaw approach situation ($\pm 6 \sim \pm 4$ points), an advantageous and disadvantageous seesaw situation ($\pm 3 \sim \pm 1$ points), and contribution in a tie situation.

5 Moreover a method of estimating the value of athletes using a game achievement evaluation model, wherein a process of providing the degree of contribution data and transmitting settlement authentication and results comprises the steps:

allowing a user, a baseball player, a baseball-related
10 institute, a basketball ball club, a press (sports) institute, etc. to have access to a web site within a manager server through each terminal; allowing the user, the baseball player, the baseball-related institute, the basketball ball club, the press (sports) institute, etc. to search and select the degree
15 of contribution of the athletes or the player ball clubs; allowing the user, the baseball player, the baseball-related institute, the basketball ball club, the press (sports) institute, etc. to make requests for the degree of contribution data for qualitative evaluation of the athletes or the player
20 ball clubs to the manager server through the terminal; allowing the manager server to input a settlement number (a credit card number, an account number, etc.) to a corresponding terminal or server that request the degree of contribution by the athletes;
allowing athletes, player ball clubs, etc. who request
25 the degree of contribution by the athletes to input the

settlement number (a credit card number, an account number, etc.) in a web site within a manager server using a corresponding terminal or server; allowing the manager server to make requests for authentication of a corresponding
5 settlement number that requests the degree of contribution by the athletes to a financial institute/credit card company/mobile communication company-billing server; allowing the financial institute/credit card company/mobile communication company-billing server to compare the requested
10 settlement number and a settlement number stored in a database of a corresponding server, and then to send the authentication result to the manager server; allowing the manager server to make requests for settlement to a settlement system server; allowing the settlement system server to settle accounts to the
15 credit card number, the account number, the mobile phone finance, etc.; allowing the settlement system server to send the settlement contents to the manager server; allowing the manager server to send the settlement contents to a corresponding terminal or server that requests the degree of
20 contribution by the athletes through a communication service company server; and allowing the communication service company server to send the settlement contents to a corresponding terminal or server, and then to send the transmission results to the manager server.

25

Brief Description of Drawings

Further objects and advantages of the invention can be more fully understood from the following detailed description taken in conjunction with the accompanying drawings in which:

5 FIG. 1 is a block diagram of a system for estimating the value of athletes using a game achievement evaluation model according to an embodiment of the present invention;

FIG. 2 is a block diagram of a system for estimating the value of athletes using a game achievement evaluation model
10 according to another embodiment of the present invention;

FIG. 3 is a detailed block diagram of the manager server of the system for estimating the value of athletes using the game achievement evaluation model according to another embodiment of the present invention;

15 FIG. 4 is a flowchart illustrating a member subscription process in a method of estimating the value of athletes using a game achievement evaluation model according to an embodiment of the present invention;

FIG. 5 is a flowchart illustrating an annual salary
20 calculation process in the method of estimating the value of athletes using the game achievement evaluation model according to another embodiment of the present invention; and

FIG. 6 is a flowchart illustrating a process of providing the degree of contribution data and sending settlement
25 authentication and results in the method of estimating the

value of athletes using the game achievement evaluation model according to another embodiment of the present invention.

Best Mode for Carrying Out the Invention

5 The present invention will now be described in detail in connection with preferred embodiments with reference to the accompanying drawings.

FIG. 1 is a block diagram of a system for estimating the value of athletes using a game achievement evaluation model according to an embodiment of the present invention. FIG. 2 is a block diagram of a system for estimating the value of athletes using a game achievement evaluation model according to another embodiment of the present invention.

Referring to FIGS. 1 and 2, the system for estimating the value of athletes using the game achievement evaluation model according to an embodiment of the present invention includes a manager server 100, a user terminal 200, a baseball player terminal 300, a baseball-related institute server 400, a baseball ball club server 500, a press (sports) institute server 600, a financial institute server 700, a credit card company server 710, a mobile communication company billing server 720, a settlement system server 800, a communication service company server 900, a manager server DB 110, a financial institute server DB 701, a credit card company server DB 711 and a mobile communication company billing server DB 721.

Functions of respective technical means will be below described.

The manager server 100. has a function of receiving requests for membership by users, baseball players, baseball-related institutes, baseball ball clubs, press (sports) institutes, etc. who have access to a web site in order to know the degree of contribution for qualitative evaluation of athletes or athlete ball clubs for annual salary calculation of professional athletes, the scout of amateurs, mercenary scout, athlete draft, athlete trade, etc., a function in which members are registered, and are given with IDs, a function in which the members that joined the web site are managed in the manager server DB, and a function in which in a state where the degree of contribution by the athletes is classified into attack addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error) according to game situations, 129 game factors and game factors are divided into detailed 1277 game situation factors based on the classified factors, the game factors and the game situation factors are numerically valued with them being given with different weights, and if the users, the baseball players, the baseball-related institutes, the basketball ball clubs, the press (sports) institutes, etc. request the quantitative results through servers or terminals, data on the degree of contribution by the athletes are sent to corresponding servers or terminals.

The user terminal 200 has a function of allows a user to have access to the website within the manager server and to make requests for member joining, in order to know annual salary calculation of professional athletes, the scout of amateurs, mercenary scout, athlete draft, athlete trade, and the like, a function of allowing the manager server to assign an ID to the user, and a function of allowing the user to make requests for the degree of quantitative contribution by athletes to the manager server, and to receive the degree of contribution data by the athletes.

The baseball player terminal 300 has a function of allows a baseball player to have access to the website within the manager server and to make requests for member joining, in order to know annual salary calculation of professional athletes, the scout of amateurs, mercenary scout, athlete draft, athlete trade, and the like, a function of allowing the manager server to assign an ID to the baseball player, and a function of allowing the baseball player to make requests for the degree of quantitative contribution by athletes to the manager server, and to receive the degree of contribution data by the athletes.

The baseball-related institute server 400 has a function of allows a baseball-related institute to have access to the website within the manager server and to make requests for member joining, in order to know annual salary calculation of professional athletes, the scout of amateurs, mercenary scout,

athlete draft, athlete trade, and the like, a function of allowing the manager server to assign an ID to the baseball-related institute, and a function of allowing the baseball-related institute to make requests for the degree of
5 quantitative contribution by athletes to the manager server, and to receive the degree of contribution data by the athletes.

The baseball ball club server 500 has a function of allows a baseball ball club to have access to the website within the manager server and to make requests for member
10 joining, in order to know annual salary calculation of professional athletes, the scout of amateurs, mercenary scout, athlete draft, athlete trade, and the like, a function of allowing the manager server to assign an ID to the basketball ball club, and a function of allowing the basketball ball club
15 to make requests for the degree of quantitative contribution by athletes to the manager server, and to receive the degree of contribution data by the athletes.

The press (sports) institute server 600 has a function of allows a press (sports) institute to have access to the website
20 within the manager server and to make requests for member joining, in order to know annual salary calculation of professional athletes, the scout of amateurs, mercenary scout, athlete draft, athlete trade, and the like, a function of allowing the manager server to assign an ID to the press
25 (sports) institute, and a function of allowing the press

(sports) institute to make requests for the degree of quantitative contribution by athletes to the manager server, and to receive the degree of contribution data by the athletes.

The financial institute/credit card company/mobile communication company billing servers 700, 710 and 720 perform a function of receiving authentication requests for one or more of financial information, card information and mobile communication information being settlement numbers of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute from the manager server, a function of comparing the received information with information stored in corresponding databases of the financial institute server, the credit card company server and the mobile communication company billing server after the authentication request, and a function of transmitting the authentication result to the manager server.

The settlement system server 800 has a function of receiving one or more of the settlement numbers of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute, which are authorized by the financial institute/credit card company/mobile communication company billing servers, from the manager server, and a function of transmitting the settlement results to the manager server after confirming the settlement numbers.

The communication service company server 900 has a function of, after confirming the settlement from the settlement system server, receiving the degree of contribution information by the athletes and settlement information from the manager server, and a function of transmitting the degree of contribution information by the athletes and settlement information, which are received from the manager server, via e-mail, SMS of a mobile phone, the messenger, etc. to the terminal, the user and the baseball player mobile phones of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute.

The manager server DB 110 and the financial institute/credit card company/mobile communication company billing servers DB 701, 711 and 721 perform a function of up-downing and up-loading information on the member, the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute from and to the manager server and the financial institute/credit card company/mobile communication company billing server.

FIG. 3 is a detailed block diagram of the manager server of the system for estimating the value of athletes using the game achievement evaluation model according to another embodiment of the present invention.

The detailed block diagram of the manager server will now be described with reference to FIG. 3. The member subscription

unit 101 has a function of allowing a user, a baseball player, a baseball-related institute, a baseball ball club, a press (sports) institute, etc. to request member joining through a server or a terminal.

5 The member permission unit 102 has a function of authorizing the member joining, and then assigning an ID.

 The member information database (DB) 103 has a function of storing and managing members.

 The athlete contribution degree database (DB) 104 has a
10 function of storing and managing the degree of contribution by athletes.

 The game factor unit 110 consists of 129 items. The game factor unit 110 includes an attack addition game factor unit 111 that indicates attack contribution portions such as team
15 morale increase contribution addition generated by a game situation of an athlete, an attack subtraction game factor unit 112 that indicates attack error portions such as point acquisition cancellation error subtraction, a defense addition game factor unit 113 that indicates defense contribution
20 portions such as full possible losing point dissipation contribution addition, and a defense subtraction game factor unit 114 that indicates defense error portions such as full self-blame possible losing point error subtraction.

 The game situation factor unit 120 consists of 1277 items,
25 and includes an attack addition game situation factor unit 121

that indicates detailed items of attack addition game factors indicating attack contribution portions generated by a game situation of an athlete, an attack subtraction game situation factor unit 122 that indicates detailed items of attack subtraction game factors indicating attack error portions, a defense addition game situation factor unit 123 that indicates detailed items of defense addition game factors indicating defense contribution portions, and a defense subtraction game situation factor unit 124 that indicates detailed items of defense subtraction game factors indicating defense error portions.

The median setting unit 130 has a function of setting representative values for respective detailed items that constitute the game factor unit and the game situation factor unit.

The weight-setting unit 140 has a function of multiplying the game factor median and the game situation factor median set in the median setting unit.

The contribution degree calculation unit 150 has a function of calculating the degree of contribution by athletes from a difference between addition factors including contribution factors for attack and defense addition to which weights are applied, and subtraction factors including error factors for attack and defense subtraction to which weights are applied.

Hereinafter, the method of estimating the value of athletes using the game achievement evaluation model according to an embodiment of the present invention will be below described in more detailed.

5 FIG. 4 is a flowchart illustrating a member subscription process in the method of estimating the value of athletes using the game achievement evaluation model according to an embodiment of the present invention.

Referring to FIG. 4, in step S1, one or more of a user, a
10 baseball player, a baseball-related institute and a baseball ball club, a press (sports) institute has access to a web site through a manager server. In step S2, one or more of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute applies
15 member joining to the member-joining unit within the manager server. In step S3, it is determined whether to allow the member joining in the member permission unit within the manager server. In step S3, if it is determined that the member joining is not allowed, the member joining is rejected (Step S4). If it
20 is determined that the member joining is allowed, joining to a member is allowed (Step S5). After the member joining is allowed, the manager server sends IDs to one or more of the terminals or servers among the user, the baseball player, the baseball-related institute, the basketball ball club and the
25 press (sports) institute through the member permission unit

(step S6). Then, the Ids are stored in the member information database of the manager server (step S7).

FIG. 5 is a flowchart illustrating an annual salary calculation process in the method of estimating the value of athletes using the game achievement evaluation model according to another embodiment of the present invention.

As shown in FIG. 5, a manager first sets attack addition game factors of 41 items, attack subtraction game factors of 34 items, defense addition game factors of 30 items, and defense subtraction game factors of 24 items in the game factor unit within the manager server (Step S10).

Detailed items of the attack addition game factor unit include full shooting capture ability contribution addition (situation: 7 items), shooting chance capture ability contribution addition 7, possible losing point removal contribution addition 7, full team morale-inspired contribution addition 13, team morale-inspired contribution addition 7, high degree-skill contribution addition 13, full disadvantage overcome ability contribution addition 13, disadvantage overcome ability contribution addition 13, disadvantage overcome fail contribution addition 7, full point-possible securing contribution addition 13, score-possible providing contribution addition 13, score record cancellation-considered contribution addition 13, full score chance ability loss contribution addition 7, point chance ability loss contribution

addition 13, alternate score additional contribution addition 7,
 lucky score addition contribution addition 7, indirect chance
 fostering contribution addition 7, direct chance assistance
 contribution addition 7, indirect chance sacrifice contribution
 5 addition 13, direct chance sacrifice contribution addition 13,
 athlete defense shrinkage contribution addition 7, opponent
 team defense shrinkage contribution addition 21, attack time
 re-application contribution addition 21, full point
 cooperation contribution addition 13, point cooperation
 10 contribution addition 7, teamwork completion cooperation
 contribution addition 7, teamwork cooperation contribution
 addition 13, positive participation contribution addition 13,
 shooting chance cooperation contribution addition 13, full
 shooting chance cooperation contribution addition 21, swift
 15 attack cooperation contribution addition 7, full swift attack
 cooperation contribution addition 13, possession acquisition
 contribution addition 13, free throw possession ability
 contribution addition 7, full possession acquisition
 contribution addition 21, possession acquisition-side
 20 contribution addition 7, score record acquisition contribution
 addition 7, opponent teamwork degeneracy contribution addition
 5, opponent team formation obstruction contribution addition 5,
 opponent defense disturbance contribution addition 9 and right
 shooting timing contribution addition 9.

25 Detailed items of the attack subtraction game factor unit

include point acquisition cancellation error subtraction
(situation: 13 items), direction team-moral degeneracy error
subtraction 7, indirect team moral degeneracy error subtraction
7, possession-possible chance removal error subtraction 7,
5 possession loss providing error subtraction 13, indirect
possession loss providing error subtraction 7, possession loss-
possible providing error subtraction 7, possible losing point
providing error subtraction 13, indirect possible losing point
providing error subtraction 7, full possible losing point
10 providing error subtraction 13, score-possible removal error
subtraction 13, indirect score-possible removal error
subtraction 13, full score chance dissipation error subtraction
12, indirect score chance dissipation error subtraction 12,
general full score chance dissipation error subtraction 12,
15 general indirect score chance dissipation error subtraction 12,
game basic capability lack error subtraction 7, score addition
chance dissipation error subtraction 13, victory factor removal
error subtraction 13, unreasonable shooting attempt error
subtraction 13, right shooting timing lack error subtraction 13,
20 teamwork cooperation lack error subtraction 7, full teamwork
cooperation lack error subtraction 7, positive participation
lack error subtraction 7, full positive participation lack
error subtraction 7, prediction ability lack error subtraction
7, personal defense shrinkage load error subtraction 7, team
25 member personal defense shrinkage load error subtraction 13,

team defense shrinkage degeneracy error subtraction 13,
 teamwork lowering fostering error subtraction 5, teamwork
 formation obstruction error subtraction 5, instant chance
 cooperation lack error subtraction 5, opponent swift attack-
 5 possible chance assignment error subtraction 9 and opponent
 free throw-possible assignment error subtraction 9.

Detailed items of the defense addition game factor unit
 include full possible losing point dissipation contribution
 addition (situation: 7 items), possible losing point
 10 dissipation contribution addition 7, full losing point
 allowance dissipation contribution addition 7, possession
 acquisition-possible assignment contribution addition 7,
 shooting fail factor assignment contribution addition 21, full
 shooting fail factor assignment contribution addition 21,
 15 shooting mental shrinkage contribution addition 9, counter team
 morale lowering contribution addition 7, direct the other party
 morale lowering contribution addition 13, possible losing point
 previous removal contribution addition 4, game rhythm
 interception contribution addition 4, teamwork stability
 20 opponent assignment contribution addition 13, losing point
 minimum-possible assignment contribution addition 4, optimal
 defense ability contribution addition 7, full optimal defense
 ability contribution addition 13, defense positive
 participation contribution addition 4, full defense positive
 25 participation contribution addition 7, teamwork assistance

contribution addition 7, error inducing factor assignment
 contribution addition 7, full error-inducing assignment
 contribution addition 13, score chance-possible assignment
 contribution addition 13, full score-possible assignment
 5 contribution addition 13, the other party personal defense
 shrinkage contribution addition 4, opponent team defense
 shrinkage contribution addition 13, defense confusion recovery
 contribution addition 13, possession acquisition contribution
 addition 4, opponent teamwork formation obstruction
 10 contribution addition 5, opponent team member formation
 obstruction contribution addition 5, swift attack-possible
 chance providing contribution addition 9 and positive sacrifice
 participation contribution addition 9.

Detailed items of the defense subtraction game factor
 15 unit include minimum self-blame losing point assignment error
 subtraction (situation: 21 items), full self-blame losing point
 assignment error subtraction 21, full self-blame possible
 losing point error subtraction 13, maximum self-blame losing
 point assignment error subtraction 21, countermeasure absence
 20 losing point error subtraction 21, countermeasure absence
 possible losing point error subtraction 13, countermeasure
 absence-inducing error subtraction 7, assistance self-blame
 losing point-considered error subtraction 7, assistance self-
 blame-possible losing point-considered error subtraction 7,
 25 situation coping ability lack error subtraction 7, assistance

1 coping ability lack error subtraction 7, basic defense ability
lack error subtraction 7, indirect opponent team morale-
inspired error subtraction 7, direct opponent team morale-
inspired error subtraction 7, personal defense shrinkage error
5 subtraction 7, personal defense shrinkage fostering error
subtraction 7, team defense shrinkage fostering error
subtraction 7, mentality control ability lack error subtraction
13, opponent teamwork consolidation chance providing error
subtraction 7, teamwork collapse curse providing error
10 subtraction 5, possible losing point increase-induced error
subtraction 5, game flow prevention ability lack error
subtraction 5, team-pattern confusion assignment error
subtraction 9 and team member formation difficulty providing
error subtraction 9.

15 Furthermore, the attack addition game factors of the 41
items, the attack subtraction game factors of the 34 items, the
defense addition game factors of the 30 items, and the defense
subtraction game factors of the 24 items can be defined as
follows.

20 Firstly, the principle of member joining to the attack
addition factors is as follows.

(1) The full shooting capture (free use) ability
contribution addition item includes a case where, upon offense,
a shooting change is secured through self-effort or with the
25 help of a co-player, shooting is made, and a point is given to

a player, a case where although a shooting chance is secured through self-effort or with the help of a co-player and a point is scored through shooting, upon offense, the point vanishes due to error of a co-player, and a point is thus given to a scored player, and a case where a point is given to an player who is successful in one or more free throws in a free throw upon attack.

(2) The shooting chance capture ability contribution addition item includes a case where although a full shooting chance is secured through self-effort or with the help of a co-player upon offense, the chance vanishes since a pass is not give, a case where in a state where shooting (including free throw) was attempted upon offense but failed, a shooter is given with a chance in a no play situation since a co-player commits error, a case where although a point is scored upon offense, the point is canceled due to error of a co-player (basket interfere, goaltending, etc.), a case where although shooting is failed upon offense, a chance is given to a shooter when a co-player or a person concerned secures possession again.

(3) The possible losing point removal contribution addition item includes a case where in a state where a player plays normal play upon offense, the player is given with a chance when error portions exist with possession not being changed, that is, if there is no action of a player while not generating subtraction factors to a team, when a ball is

deprived and becomes possession of an opponent team, a cause of the reason is given. When a point (including free throw) is scored, rebound is made, when a ball to which a co-player committed error or a fumbled ball is caught, when a good jump
5 ball or a jump ball of a tapper is caught in a jump ball, when a loose ball foul is obtained, a case where a ball in which a co-player committed error becomes a jump ball, when a shooting ball is intentionally out through touch on an opponent play without being in touch with a ring, etc.. Furthermore, it
10 includes a case where a player who obtains a free throw is given with the addition due to various fouls such as foul upon application of a team foul of an opponent team upon attack, a loose ball foul, an intentional foul, a flagrant foul and a punching foul.

15 (4) The full team morale-inspired contribution addition item includes a case where a related player is given with the addition in core acquisition (including free throw) upon offense. In this case, if free throws of seesaw, tie and reverse point are successful at the same time during attempt of
20 a free throw, they are added. Furthermore, it includes a case where a player who is successful in one free throw upon attack is given.

(5) The team morale-inspired contribution addition item includes a case where since play results of a player upon
25 offense is stimulus to an opponent team (when an opponent

player is croqueted through dizzy pass or dribble), mental shrinkage is given to the opponent player, a case where when an offense player fails in shooting (lay-up, under-goal, middle, three points) upon offense, a shooter or a co-player secures possession again, and a case where a shooter or a player who
5 secures possession is given.

(6) The high degree-skill contribution addition item includes a case where a player whop is successful in a three-point shoot in personal action upon attack, dizzy dribble, splendid lay-up, dunk shooting, tip in, dizzy pass (including
10 alley-oop assist), and acquisition of a free throw subsequent to scoring (foul) is given, and a case where a player who performs indirect and direct assist pass in personal action upon offense is given.

(7) The full disadvantage overcome ability contribution addition item includes a case where a player who performs attack rebound (unfairness of BOX OUT) upon offense is given, and a case where a player who tip ins shooting ball by an offense player upon offense is given.
15

(8) The disadvantage overcome ability contribution addition item includes a case where a player who catches a ball on which error is committed by a co-player in attack rebound upon attack or in an attach situation committed error to gain possession through cooperation with co-player or self-effort is
20 given, and a case where a player who secures possession by
25

intentionally making out a shooting ball through touch on an opponent play without being in touch with a ring, etc. is given.

(9) The disadvantage overcome fail contribution addition item includes a case where when failing to catch a ball to
5 which error is committed by an offense player A upon offense or a fumble ball, an offense player A intentionally throws shooting ball, which is about to be out from the court after bounding the ring or is about to be out from the court due to mistake of a co-player, to the body of a defense player X, but
10 fails, or fails to pass a ball to a co-player.

(10) The full score-possible securing contribution addition item includes a case where an offense player catches a rebound or loose ball within the 3 second limit section or connects immediate shooting, upon offense, is given, a case
15 where an offense player who causes error in an opponent player within the 3 second limit section upon offense, or makes contribution to a team due to scoring while fighting a ball, and a case where a player who gains a free throw due to foul of an opponent team upon offense.

20 (11) The score-possible providing contribution addition item includes a case where a player catches attack rebound upon offense player or fully secures possession through steal or snatch of a co-player's error ball in a front court is given, a case where a play who catches a ball that is shoot by a shooter
25 but is blocked upon offense shooter, or catches a co-player's

error ball to gain possession is given, a case where a player who intentionally touches a ball to an opponent player to gain possession when the shooting ball by a co-player does touch or not touch a ring upon offense, or a ball is erroneously court
5 out due to a co-player during play is given, a case where a player who obtains a loose ball foul (after a ball becomes a live ball, illegal physical contact when no team has possession) upon offense is given, and a case where a player is given when the player gives pass comparable to assist (direct
10 and indirect no-marks) for shooting upon offense, shooting is failed and the pass is not recorded as assist is given.

(12) The score record cancellation-considered contribution addition item includes a case where a player who has score record chance canceled due to error (goaltending,
15 line cross, basket interference, etc.) of a co-player although the goal is reached in a free throw upon attack is given, and a case where a player who has its score record chance canceled due to error (goaltending, line cross, basket interference, etc.) of a co-player although the goal is reached upon offense
20 is given.

(13) The full score chance ability loss contribution addition item includes a case where a player has its free throw canceled due to error (goaltending, line cross, etc.) of a co-player in a state where an offense player obtains a free throw
25 but fails the goal upon offense is given, and a case where a

player who cannot attempt a free throw due to a wound although obtained the free throw upon offense is given.

(14) The score chance ability loss contribution addition item includes a case where a player who has its chance vanished
5 due to miss pass although he obtains a shooting chance position of full chance upon offense is given.

(15) The alternate score addition contribution addition item includes a case where a player who obtains a free throw obtained by a co-player due to predetermined selection not
10 self-effort, and reaches the goal upon offense. In this case, it is not included in a personal score record, but is treated as a team score.

(16) The lucky score addition contribution addition item includes a case where the nearest player is given when the
15 other party generates an own goal due to error upon offense. In this case, it is not included in a personal score record, but is treated as a team score.

(17) The indirect chance fostering contribution addition item includes a case where a player who induces the person in
20 question and a co-player defense regardless of a ball in order to give a shooting, pass or catch chance to a co-player upon offense is given.

(18) The direct chance fostering contribution addition item includes a case where a player who acts regardless of a
25 ball in order to give a shooting, pass or catch chance to a co-

player upon offense, resulting in pass connection, is given.

(19) The indirect chance sacrifice contribution addition item includes a case where a player who acts for the purpose of a team rather than the person in question through block, screen, etc. upon offense, resulting in a pass, gets a shooting chance, but does not attempt the shooting is given.

(20) The direct chance sacrifice contribution addition item includes a case where a player who plays for the purpose of a team rather than the person in question through block; screen, etc. upon offense, resulting in a pass, and attempts shooting, is given.

(21) The personal defense shrinkage contribution addition item includes a case where a player who induces an opponent player to commit foul upon offense is given.

(22) The opponent team defense shrinkage contribution addition item includes a case where the results when a player induces an opponent player to commit foul upon an offense are included even in team foul.

(23) The attack time re-application contribution addition item includes a case where a player who generates the condition in which if a game is stopped due to foul, etc. and is then resumed upon offense, an attack team is given with 24 seconds upon offense is given.

(24) The full score cooperation contribution (full assist) contribution addition item includes a case where a

player who attempts full no-mark assist pass (successful score of a co-player) upon offense is given. In this case, the full no-mark assist pass refers to a case where the shooter is not hindered by the defense player.

5 (25) The score cooperation contribution (indirect assist) contribution addition item includes a case where a player who attempts indirect no-mark assist pass (successful score of a co-player) upon offense is given. In this case, the indirect no-mark assist pass refers to a case where the shooter is
10 hindered by the defense player.

 (26) The teamwork completion cooperation contribution or team organization maximum contribution addition item includes a case where last three players are given in the case where a pass is connected and score is successful through cooperation,
15 i.e., swift attack, a set play, etc. among co-players upon offense.

 (27) The teamwork cooperation contribution addition item includes a case where a player who attempts block, screen or pass in the case where a pass is connected through cooperation
20 among co-players but shooting is failed upon offense is given. In this case, upon attack, in a pass, addition for timing, exactness and flow leading is given.

 (28) The positive participation contribution addition item includes a case where a player who is located at the
25 nearest place when a ball is goaled while fighting against an

opponent for a ball upon rebound upon attack, when a point is obtained due to error of an opponent, or when contribution is generated in a team is given, a case where a subject player of a jump ball when the jump ball is declared when a balls does
5 not belong to any team or when an error ball by a co-player is fought is given, a case where a player who catches co-player committed error ball or a fumbled ball through cooperation with a co-player or self-effort upon offense is given, a case where a player who intentionally touches a ball to an opponent player
10 to gain possession when the shooting ball by a co-player does touch or not touch a ring upon offense, or a ball is erroneously court out due to a co-player during play is given, a case where a player who acquires a ball through participation in attack rebound upon offense, a player who commits error
15 simultaneously with a defense player, and makes jump-ball in participation of positive rebound, tap (including unintentional tap) of a participation player and no goal in shooting or free throw is given, and a player who plays positively such as double foul during positive in-play, and make contribution to a
20 team is given, and a case where when failing to catch a ball to which error is committed by an offense player A upon offense or a fumble ball, an offense player A intentionally throws shooting ball, which is about to be out from the court after bounding the ring or is about to be out from the court due to
25 mistake of a co-player, to the body of a defense player X, but

fails, or fails to pass a ball to a co-player.

(29) The shooting change cooperation contribution or shooting chance providing contribution addition item includes a case where a player who gives a pass (indirect no mark), which
5 is comparable to the assist, to a co-player outside the 3 second limit section upon offense, but shooting is failed, is given although the pass is not recorded as the assist.

(30) The full shooting chance cooperation contribution addition item includes a case where a player who gives a pass
10 (full no mark), which is comparable to the assist, to a co-player outside the 3 second limit section upon offense, but shooting is failed, is given although the pass is not recorded as the assist.

(31) The swift attack cooperation contribution addition
15 item includes a case where a player, an intermediate connection player and a last pass player who give pass simultaneously with rebound, but do not obtain a point upon swift attack are given.

(32) The full swift attack cooperation contribution addition item includes a case where a player, an intermediate
20 connection player and a last pass player who give pass simultaneously with rebound, and get a point upon swift attack are given.

(33) The possession acquisition-possible contribution addition item includes a case where a player who produces a
25 jump ball in a fumble situation (including error of a co-

player) where ball does not belong to any team upon offense is given, and a case where a player who generates a jump ball in a situation where offense and defense players commit violation at the same time (interfere or goaltending) in free throw upon
5 offense is given.

(34) The free throw possession ability or full score-possible contribution addition item includes a case where a player who gets foul of a team foul state, foul of an individual shooting action, technical foul, loose ball foul,
10 etc. in a state where any error is not generated upon offense is given, and a case where a player who obtains free throw upon offense is given.

(35) The full possession securing contribution addition item includes a case where a player who makes contributions of
15 half a role when a tapper and a catcher gets possession of a ball in a jump ball situation upon offense is given, a case where a player who makes contributions of half a role when the player intentionally tap gives a pass to a co-player in a rebound situation upon offense is given, a case where a player
20 who catches a block ball simultaneously with shooting, rebound possession, an error ball by a co-player or a fumble ball upon offense shooting is given, and a case where a player who intentionally touches a ball to an opponent player to gain possession when the shooting ball by a co-player does touch or
25 not touch a ring upon offense, or a ball is erroneously court

out due to a co-player during play is given.

(36) The possession securing side contribution addition item includes a case where a player who makes contributions of similar or below half a role when a tapper and a catcher gets possession of a ball in a jump ball situation upon offense is given, a case where a player who makes contributions of similar or below half a role in tap of a tapper and catch of a catcher in rebound upon attack, and catch of a tap catcher in a jump ball is given, and a case where a player who attempts unintentional tap when a co-player catches unintentionally taps ball in rebound upon attack.

(37) The score record acquisition contribution addition item includes case where a player who attempts shooting and gets a point upon attack is given.

(38) The opponent teamwork lowering contribution addition item includes case where a player who makes contribution in making an opponent player left upon attack is given.

(39) The opponent team configuration hindering contribution addition item includes case where a player who makes contribution in making an opponent player left and allowing the player not to participate in one ore more games upon attack is given.

(40) The opponent defense disturbance contribution addition item includes case where a player who gives positive confusion to an opponent defense through pass, dribble, block,

screen, swift attack or teamwork upon attack is given.

(41) The right shooting timing contribution addition item is given when a shooter attempts shooting in a shooting timing upon attack. That is, this corresponds to a case where when a score is failed or shooting is failed, a co-player or the person in question gets possession again, or a case where although a shooter attempts shooting in a shooting timing and scores a point upon attack, a co-player commits violation, and the point is cancelled.

Secondly, the principle of writing each of the attack subtraction factors is as follows.

(1) The point acquisition cancellation error subtraction item includes a case where a player who causes the person in question or a co-player commits violation, and a point is cancelled in a situation where a shooter attempts a field goal or a free throw to get a goal upon offense is given, and a case where a player who a shoot commits foul and the point is cancelled in a situation where a shooter attempts a field goal or a free throw to get a goal upon offense is given.

(2) The direction team moral degeneracy error subtraction item includes a case where a player who generates error (fumble of ball possession, pass miss, dribble miss, catch miss, the 3 second limit rule, traveling, double dribble, etc.), causing the possession to be passed over to an opponent team upon offense is given, a case where a player who attempts personal

and team play and generate offense foul (intentional, flagrant, punching), causing the possession to be passed over to an opponent team upon offense is given, a case where a player who commits foul and loses the possession in a situation where a shooter attempts a field goal or a free throw to get a goal upon offense is given, a case where a player who loses possession due to five second error by approach defense or five second error by post-up upon offense is given, a case where a player who attempts personal and team play and commits error of line cross to lose possession upon offense is given, a case where a player who attempts personal and team play and commits half line violation as the player goes over from a front court to a back court, or goes over to the back court while passing is given, a case where a player who has his ball stolen while possessing ball-possession and dribble at a front-court high point or has his ball intercepted while passing at that point upon offense is given, a case where a player who attempts three score shooting without an assist pass, but fails in swift attack upon attack is given, a case where a player who passing a ball without shooting in full chance (under-goal, lay-up, etc.), generates error and lose possession in swift attack is given, a case where a player who commit error when a co-player commits foul in a reverse attack of an opponent team in a state where possession is lost due to error upon offense is given, a case where a player who commits error, causing a point to be

cancelled in a situation in which a field goal or a free throw is successful upon offense is given, a case where a player who fails in a free throw upon attack, a case where a player who receives the assist pass within the 3 second limit section
5 through a teamwork, attempts a field goal (full no-mark situation), but fails in score (fail) upon attack is given, a case where a player who receives the assist pass within the 3 second limit section through a teamwork, attempts a field goal (full no-mark situation) upon attack, but fails in score (fail)
10 is given, a case where a player who receives the assist pass within the 3 second limit section through a teamwork, attempts a field goal (indirect no-mark situation), but fails in score (fail) upon attack is given, and a case where a player who commits catch miss in a full no-mark chance (under-goal and the
15 3 second limit section) upon offense.

(3) The indirect team moral degeneracy error subtraction item includes a case where a player who attempts field goal (full no-mark and indirect no-mark situation) through self-effort (the individual skill), but fails in a point upon attack
20 is given, a case where a player who attempts shooting, but a ball does not touch a ring (shooting fail) and is out without touching any player, so that a chance of securing a ball is cancelled, is given, a case where a player who attempts shooting but has his ball blocked by a defense player upon
25 offense is given, a case where a player who attempts shooting

(no goal) and does not give a chance of rebound in a state where attack rebound of co-players are absent upon offense is given, a case where a player who generates error (pass miss, catch miss, etc.) among co-players and thus gives possession to an opponent team upon offense, a case where a player who loses possession due to five second error by approach defense, five second error by post-up, 8 second half line error, and attack time 24 second exceeding error, upon offense, is given, a case where a player who causes a jump ball to be declared by a referee when the ball becomes fumble, the ball becomes a held ball, or the ball is out while fighting against a defense player upon offense is given, a case where a player who loses possession while passing a ball from the under-basket to the upper side while attempting pass upon offense is given, and a case where a player who passes a ball but commit error without shooting, but holds possession in a full chance (under-goal, lay-up, etc.) upon swift attack is given.

(4) The possession chance removal error subtraction item includes a case where a player causes a rebound chance of a team co-player to be cancelled when the person in question or a co-player commits violation and a free throw is cancelled in a state where a shooter attempts a free throw but fails in a free throw upon attack, is given, a case where a player who attempts shooting, but a ball does not touch a ring and is out without touching any player, so that a chance of securing a ball

(rebound) is cancelled upon offense, is given, a case where a player who commits error and thus loses possession upon a jump ball is given, and a case where a player who commits foul before any player possesses a ball upon attack (in a team foul) is given.

(5) The possession loss providing error subtraction item includes a case where a player who generates error (pass miss, dribble miss, catch miss, the 3 second limit rule, traveling, double dribble, etc.) upon offense, causing an opponent team to get possession, when the responsibility is personal or a half or more is given, a case where a player who attempts shooting, is blocked by an opponent, and does not acquire possession again upon attack is given, a case where a player who attempts shooting, but a ball does not touch a ring (shooting fail) and is out without touching any player, so that a chance of securing a ball is cancelled upon offense, is given, a case where a player who generates offense foul (intentional, flagrant, punching, etc.) while does personal and team play, and gives possession to an opponent team upon offense is given, a case where a player who loses possession due to five second error by approach defense, five second error by post-up, 8 second half line error, and 24 second exceeding error upon offense is given, a case where a player who commits line cross error while doing personal and team play, and thus loses possession upon offense is given, a case where a player who

goes from a front court to a back court while doing personal and team play, or goes over to a back court and commits half line violation upon offense is given, and a case where a player who loses possession while passing a ball from the basket to
5 the upper side while attempting a pass, etc. upon offense is given.

(6) The indirect possession loss providing error subtraction item includes a case where a player who generates error, thus giving possession to an opponent team, upon offense,
10 and thus has a half or less responsibility is given, a case where a player who commits foul before any player possesses a ball, upon attack, and thus loses possession is given, and a case where a player who commits foul before any player possesses a ball, in a jump ball, and thus loses possession is
15 given.

(7) The possession loss-possible providing error subtraction item includes a case where a player who attempts a field goal or a free throw (immediate after in-play situation) but fails, upon attack, is given, a case where a player (a
20 shooter) who attempts shooting and is blocked upon offense, but providing a cause of a jump ball since the player is again caught by a co-player or through tact of the person in question or a co-player is given, a case where a player who attempts shooting (no goal in) and thus does not give a chance of
25 rebound in a state where attack rebound of co-players are

absent upon offense co-player is given, a case where when a ball becomes a fumble ball while a ball is held, or a ball becomes a held ball upon attack, the person in question or a co-player are out while fighting against a defense player for the ball, and generates a jump ball is given, a case where a player who commits error simultaneously with an opponent player in an in-play situation immediately after the free throw (successful) upon attack, and generates a jump ball is given, and a case where a player who attempt three score shooting without assist pass but fails in swift attack upon attack is given.

(8) The possible losing point providing error subtraction item includes a case where a player has a half or more responsible when causing error (fumble during ball possession, pass miss, dribble miss, catch miss, the 3 second limit rule, traveling, double dribble, etc.) upon offense, and thus giving the possession to an opponent team is given, a case where when a co-player is successful in a field goal or a free throw upon offense, a player who commits error, cancels the score, and gives the possession to an opponent team is given, a case where a player who generates offense foul (intentional, flagrant, punching, etc.) while doing personal and team play upon offense, and gives the possession to an opponent team is given, a case where a player who loses possession due to five second error by approach defense, five second error by post-up, 8 second half

line error, and 24 second exceeding error upon offense is given,
a case where a player who commits line cross error while doing
personal and team play, and thus loses possession upon offense
is given, a case where a player who goes from a front court to
5 a back court while doing personal and team play, or goes over
to a back court and commits half line violation upon offense is
given, and a case where a player who commits error is given in
a state the player commits error upon offense and loses
possession, and when a co-player in a reverse attack of an
10 opponent team.

(9) The indirect possible losing point providing error
subtraction item includes a case where a player who generates
error, thus giving possession to an opponent team, upon offense,
and thus has a half or less responsibility is given, a case
15 where a player who generates four in a loose ball situation
upon offense, and gives possession to an opponent team is given,
a case where a player who commits foul before any player
possesses a ball, in a jump ball, and thus loses possession is
given, a case where a player who attempt three score shooting
20 without assist pass but fails in swift attack upon attack is
given, and a case where a player who commits error while
passing without shooting in full chance (under-goal and lay-up,
etc.) in a swift attack upon attack, but holds the possession
is given.

25 (10) The full possible losing point providing error

subtraction item includes a case where a player who personally commits technical foul in a team play situation, and gives an opponent team with a free throw, upon offense, is given, a case where a player who commits a loose ball, intentional, flagrant
5 and punching foul in a team foul-applied situation upon offense, and gives an opponent team with a free throw is given, and a case where a player who has his ball stolen while holding the ball and dribbling the ball at the front court high point upon offense, or has his ball intercepted while passing the ball is
10 given.

(11) The score-possible removal error subtraction item includes a case where a player has a half or more responsible when causing error (fumble during ball possession, pass miss, dribble miss, catch miss, the 3 second limit rule, traveling,
15 double dribble, etc.) upon offense, and thus giving the possession to an opponent team, a case where a player is given when it is personal or has a half or more responsible, a case where a player who generates offense foul (intentional, flagrant, punching, etc.) while doing personal and team play
20 upon offense, and gives the possession to an opponent team is given, a case where a player who loses possession due to five second error by approach defense, five second error by post-up, 8 second half line error, and attack time 24 second exceeding error, upon offense, is given, a case where a player who
25 commits line cross error while doing personal and team play,

and thus loses possession upon offense is given, a case where a player who goes from a front court to a back court while doing personal and team play, or goes over to a back court and commits half line violation upon offense is given, a case where
5 a player who loses possession while passing a ball from the basket to the upper side while attempting a pass, etc., upon offense, is given, a case where a player who has his ball stolen while holding the ball and dribbling the ball at the front court high point upon offense, or has his ball
10 intercepted while passing the ball is given, and a case where a player who commits error while passing without shooting in full chance (under-goal and lay-up, etc.) in a swift attack upon attack, but holds the possession is given.

(12) The indirect score-possible removal error
15 subtraction item includes a case where a player who generates error, thus giving possession to an opponent team, upon offense, and thus has a half or less responsibility is given, and a case where a player who has his ball fumbled or pass cut in a situation where he has to pass a ball to a co-player while
20 doing personal and team play upon offense, but does not lose possession through tact of the person in question or the co-player is given.

(13) The full score chance dissipation error subtraction item includes a case where a player who receives an assist pass
25 in a full no-mark situation (distance of about the 3 second

limit section), but fails in shooting, upon attack, is given, a case where a player who fails a free throw in the free throw upon attack is given, a case where a player who commits error in an in-play situation while a free throw is being attempted
5 or immediately after the attempt is made upon attack, and thus has the free throw cancelled is given, a case where a player who attempt three score shooting without giving assist pass to a co-player of a full chance (no-mark under-goal) in a swift attack upon attack, but fails is given, and a case where a
10 player who commits error while passing without shooting in full chance (under-goal and lay-up, etc.) in a swift attack upon attack, but holds the possession is given.

(14) The indirect score chance dissipation error subtraction item includes a case where a player who receives an
15 assist pass in a full no-mark situation (distance of about the 3 second limit section), but fails in shooting, upon attack, is given, and a case where a player who does an assist pass in a full no-mark situation (distance of about the 3 second limit section), but commits catch miss, upon attack, is given.

20 (15) The common full score chance dissipation error subtraction item includes a case where a player who receives an assist pass in a full no-mark situation (distance of about the 3 second limit section), but fails in shooting, upon attack, is given, and a case where a player who attempts a field goal in a
25 full no-mark chance through self-effort (individual skill) upon

attack, but fails is given (including all regions).

(16) The general indirect score chance dissipation error subtraction item includes a case where a player who receives an assist pass in an indirect no-mark situation (distance of about
5 the 3 second limit section), but fails in shooting, upon attack, is given, and a case where a player who attempts a field goal in an indirect no-mark chance through self-effort (individual skill) upon attack, but fails in the field goal is given (including all regions).

10 (17) The game basic ability lack (ball possession miss, pass miss, dribble miss, catch miss, the 3 second limit rule, traveling, double dribble, etc.) error subtraction item includes a case where a player who has a half of the responsibility in which a co-player makes a ball a jump ball or
15 has its possession taken by an opponent team upon offense when a ball is fumbled while holding the ball, when the ball becomes a held ball while holding the ball, when committing pass miss, when committing dribble miss, when committing catch miss, etc., is given, a case where a player who commits error is given in a
20 state the player commits error upon offense and loses possession, and when a co-player in a reverse attack of an opponent team, a case where a player who has his ball fumbled or pass cut in a situation where he has to pass a ball to a co-player while doing personal and team play upon offense, but
25 does not lose possession through tact of the person in question

or the co-player is given, a case where a player who fails in shooting in a full no-mark chance (under-goal or 3 second area region) upon offense is given, a case where a player who commits line cross error while doing personal and team play, 5 and thus loses possession upon offense is given, a case where a player who loses possession while passing a ball from the under-basket to the upper side while attempting pass upon offense is given, a case where a player who has his ball stolen while holding the ball and dribbling the ball at the front 10 court high point upon offense, or has his ball intercepted while passing the ball is given, a case where a player who commits error while passing without shooting in full chance (under-goal and lay-up, etc.) in a swift attack upon attack, but holds the possession is given, and a case where a player 15 who commits error while passing without shooting in full chance (under-goal and lay-up, etc.) in a swift attack upon attack, but holds the possession is given.

(18) The score addition chance dissipation error subtraction item includes a case where a player who attempts a 20 free throw but fails in the free throw instead of a player who is court out due to wound during play is given, and a case where a player who attempts a free throw instead of a team due to technical foul from an opponent team, upon attack, but fails in the free throw is given.

25 (19) The victory factor removal error subtraction item

includes a case where a player who commits violation, and causes a point to be canceled in a situation where a co-player attempts a field goal or a free throw to get a goal upon offense is given, a case where a player who commits foul and
5 causes a point to be canceled in a situation where a shooter attempts a field goal or a free throw to get a goal upon offense is given, a case where a player who commits foul to provide a free throw before no player holds a ball upon offense (team foul application) is given, a case where a player who
10 fails a free throw in the free throw upon attack is given, a case where a player who attempt three score shooting without assist pass of a full chance in a swift attack upon attack, but fails, resulting in a failed team score is given, a case where a player who commits error while passing without shooting in
15 full chance (under-goal and lay-up, etc.) and fails in scoring in a swift attack upon attack, but holds the possession is given, and a case where a player who passes a ball without shooting at a full chance (under-goal and lay-up, etc.) in a swift attack upon attack, commits error not to get a point, and
20 also loses possession is given.

(20) The unreasonable shooting attempt error subtraction item includes a case where a player who has his ball blocked while attempting shooting upon offense is given, and a case where a player who attempts shooting (no goal in) and thus does
25 not give a chance of rebound in a state where attack rebound of

co-players are absent upon offense co-player is given.

(21) The right shooting timing lack error subtraction item includes a case where a player who attempts shooting (no goal in) and thus does not give a chance of rebound in a state where attack rebound of co-players are absent upon offense co-player is given, a case where a player who is provided with a full shooting change through teamwork, but does not shooting, upon attack, is given, a case where a player who attempt three score shooting without assist pass in swift attack upon attack, but fails is given, a case where a player who passes a ball without attempting shooting at a full chance (under-goal and lay-up, etc.) in a swift attack upon attack, commits error (fail in score chance), but keeps possession is given, and a case where a player who passes a ball without shooting at a full chance (under-goal and lay-up, etc.) in a swift attack upon attack, commits error, and also loses possession is given.

(22) The teamwork cooperation lack error subtraction item includes a case where a player who has less error when possession is lost since miss sign when an out ball is in-play upon attack is given, and a case where a player who does not participate in a situation where possession is lost due to miss sign when an out ball is in-play upon attack is given.

(23) The full teamwork cooperation lack error subtraction item includes a case where a player who has higher or the same error when possession is lost since miss sign when an out ball

is in-play upon attack is given, and a case where a player who loses possession due to five second error by approach defense, five second error by post-up, 8 second half line error, and attack time 24 second exceeding error, upon offense, is given.

5 (24) The positive participation lack error subtraction item includes a case where a player who loses possession due to miss sign when an out ball is in-play upon attack, and does not participate in the situation other than a catcher is given, and a case where a player who loses possession due to five second
10 error by approach defense, five second error by post-up, 8 second half line error, and attack time 24 second exceeding error, upon offense, is given.

 (25) The full positive participation lack error subtraction item includes a case where a player who has his
15 ball taken by an opponent although a co-player makes live the ball that is tried to be out into the court through tact is given.

 (26) The prediction ability lack error subtraction item includes a case where a player who causes shooting ball to
20 touch or not to touch a ring, go pass by (touch) the hands and goes out, and allows the possession of a ball to be given to an opponent team, and a case where a player who loses possession while passing a ball from the under-basket to the upper side while attempting pass upon offense is given.

25 (27) The personal defense shrinkage load error

subtraction item includes a case where a player who commits four and allows the possession of a ball to be given to an opponent team, upon offense, in a state where the ball does not belong to any team is given, and a case where a player who
5 commits offense foul while doing personal and team play, and loses possession, upon offense is given.

(28) The team member personal defense shrinkage load error subtraction item includes a case where a player who commits error is given in a state the player commits error upon
10 offense and loses possession, and when a co-player in a reverse attack of an opponent team.

(29) The team defense shrinkage degeneracy error subtraction item includes a case where a player who commits foul in a state where a ball does not belong to any team upon
15 offense, and allows the possession of the ball to belong to an opponent team, is given, a case where a player who commits four and allows the possession of a ball to be given to an opponent team, upon offense, in a state where the ball does not belong to any team, a case where a player who generates offense foul
20 (intentional, flagrant, punching, etc.) while doing personal and team play upon offense, and loses the possession is given, and a case where a player who commits error is given in a state the player commits error upon offense and loses possession, and when a co-player in a reverse attack of an opponent team.

25 (30) The teamwork lowering fostering error subtraction

item includes a case where a player who commits flagrant foul while doing personal and team play upon offense, and is thus made walk out is given, and a case where a player who attempts three-point shooting in a situation in which 2-point possibility is sure if giving assist pass in a swift attack upon attack, but fails in the three-point shooting is given.

(31) The teamwork formation obstruction error subtraction item includes a case where a player who commits flagrant foul while doing personal and team play upon offense, and is thus made walk out is given, and a case where a player who commits punching foul, etc., while doing personal and team play upon offense, and is thus ordered to walk out and not to attend one or more plays, is given.

(32) The instant chance cooperation lack error subtraction item includes a case where a player who has his ball fumbled or pass cut in a situation where he has to pass a ball to a co-player while doing personal and team play upon offense, but does not lose possession through tact of the person in question or the co-player is given.

(33) The opponent swift attack-possible chance assignment error subtraction item includes a case where a player who commits error to generate a swift attack upon offense error is given, and a case where a player who has his ball stolen while holding the ball and dribbling the ball at the front court high point upon offense, or has his ball intercepted while passing

the ball is given.

(34) The opponent free throw-possible assignment error subtraction item includes a case where a player who generates error upon offense and thus loses possession, and in this state,
5 a co-player commits foul and a free throw is given in a reverse attack (swift attack) of an opponent team, is given.

Thirdly, the principle of writing each of the defense addition factors is as follows.

(1) The full possible losing point dissipation
10 contribution addition item includes a case where a player who is given with the shooting (within 3second limit section) but fails in scoring in a situation in which the player defends an offense player through positive and negative defense, upon defense, is given, a case where a player who does not allow
15 shooting with tack in a situation of a swift attack and no-mark, upon defense, thereby causing error to occur and not allowing a point, but does not secure possession or in this situation, secures even possession is given, a case where a player who positively defends a single lay-up chance of an offense player,
20 upon defense, and not allows a losing point is given, a case where a player who attempts block shooting within the 3 second limit section and a player who produces a jump ball common possession (held ball) of a ball immediately after stop when attempting a dunk and a field goal within the 3 second limit
25 section, upon defense, are given, and a case where a player who

defends an assist (within the 3 second limit section) of an offense player with good defense and also gets possession, or a player who does not get possession in the same situation, upon defense, is given.

- 5 (2) The possible losing point (factor) dissipation contribution addition item includes a case where a player who is given with the shooting (outside the 3 second limit section) but fails in scoring in a situation in which the player defends an offense player through positive and negative defense, upon
10 defense, is given, a case where a player who allows shooting in a situation of a switch mark among defense players, but does not allow a losing point, upon defense, is given, a case where a player who commits offense foul (intentional, flagrant, punching, etc.) while doing personal and team play upon defense,
15 and gets possession is given, a case where a player who snatches a ball with the help of co-players (good defense) upon defense is given, a case where a player who commits violation (jump ball) simultaneously with an opponent player in an in-play situation immediately after the free throw upon defense,
20 and cancels the free throw is given, a case where a player who commits foul that does not allow a free throw when the number of defense players is smaller than that of attack players due to error of a co-player upon defense is given, a case where a player who has foul by an offense player, while participating
25 rebound to catch an air ball or a loose ball, upon defense, and

thus gets possession is given, a case where a player who attempts block shooting outside the 3 second limit section, upon defense, is given, a case where a player who commits violation (the basket interfere, goaltending, etc.)

5 simultaneously with an offense player upon defense in a situation in which shooting of an offense player is no goal, and thus produces a jump ball, is given, a case where a player who defends an assist (within the 3 second limit section) of an offense player and also gets possession, or a player who does

10 not get possession in the same situation, upon defense, is given, a case where a player who has a higher or similar degree of contribution than or as a co-player when allowing the co-player to catch a shooting ball by an offense player through a tap pass during defense, or a player who has a higher or

15 similar degree of contribution than or as a tapper in the same situation, is given, and a case where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the

20 body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in getting possession, is given.

(3) The full losing point allowance dissipation contribution addition item includes a case where a player who commits violation (basket interfere, goaltending, etc.)

25 simultaneously with an offense player, upon defense, in a

situation in which shooting of an offense player is a goal, and makes the goal no point and a jump ball, is given.

(4) The possession acquisition-possible assignment contribution addition item includes a case where a player who
5 is given with the shooting, but fails in scoring in a situation in which the player defends an offense player through positive and negative defense, upon defense, is given (defense rebound), a case where a player who allows shooting in a situation of a switch mark among defense players, but does not allow a losing
10 point, upon defense, is given, a case where a player who positively defends a single lay-up chance of an offense player, upon defense, and not allows a losing point is given, a case where a player who causes fumble of an offense player to produce a chance of a jump ball, upon defense, is given, a case
15 where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is a goal, and makes the goal no point and a jump ball, is given, a player who produces a jump ball in a no goal situation
20 is given, a case where a player who causes a held ball from an offense player with self-effort, and attempts a jump ball, upon defense, is given, a case where a player who attempts a jump ball when committing violation simultaneously with an offense player in an in-play situation immediately after a free throw,
25 upon defense, is given, a case where a layer who helps a co-

player to steal or snatch a ball, upon defense, or a player who allows a co-player to catch a ball by attempting the same situation, is given, a case where a layer who causes error of an offense player, upon defense, but does not get possession, 5 is given, a case where a layer who protects a pass road when an offense player does slow in, helping five second error to occur, upon defense, is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, upon defense, or a player who intentionally strikes a fumbled 10 ball so that the co-player can catch the ball, is given, a case where a player who attempts block shooting within the 3 second limit section and a player who produces a jump ball common possession (held ball) of a ball immediately after stop when attempting a dunk and a field goal within the 3 second limit 15 section, upon defense, are given, a case where a player helps a co-player to catch a shooting ball by an offense player through tap pass, upon defense, although it is little or great, is given, and a case where a player who attempts box out in order to catch a ball immediately after shooting of an opponent 20 player, unprepared touch of a ball, assist of a co-player's rebound, etc., upon defense, is given.

(5) The shooting fail factor assignment contribution addition item includes a case where a player who allows shooting to an offense player due to negative behavior, upon 25 defense, but does not allow the shooting to be a point, is

given, and a case where a player who allows shooting in a switch mark situation among defense players, but does not allow a losing point, upon defense, is given.

(6) The full shooting fail factor assignment contribution
5 addition item includes a case where a player who allows shooting to an offense player in positive behavior (defense such as alley-oop and no mark lay-up), upon defense, but does not allow the shooting to be a point, is given, a case where a player who positively defends a single lay-up chance of an
10 offense player, upon defense, and not allows a losing point is given, and a case where a player who attempts block shooting within the 3 second limit section and a player who produces a jump ball common possession (held ball) of a ball immediately after stop when attempting a dunk and a field goal within the 3
15 second limit section, upon defense, are given.

(7) The shooting mental shrinkage contribution addition item includes a case where a player who attempts block shooting within and outside the 3 second limit section and a player who produces a jump ball common possession (held ball) of a ball
20 immediately after stop when attempting a dunk and a field goal within and outside the 3 second limit section, upon defense, are given.

(8) The counter team morale lowering contribution addition item includes a case where a player who allows an
25 offense player to shooting, but does not allow the shooting to

a point, upon defense, is given, a case where a player who allows shooting in a situation of a switch mark among defense players, but does not allow a losing point, upon defense, is given, a case where a layer who causes error of an offense
5 player with tact in a swift attack and no-mark situation, upon defense, but does not get possession, is given, a case where a player who causes fumble of an offense player to produce a chance of a jump ball, upon defense, is given, a case where a player who causes a held ball from an offense player with self-
10 effort, and attempts a jump ball, upon defense, is given, a case where a layer who helps a co-player to steal or snatch a ball, upon defense, is given, or a player who allows a co-player to catch a ball by attempting the same situation, is given, a case where a layer who protects a pass road when an
15 offense player does slow in, helping five second error to occur, upon defense, is given, a case where a player who positively defends a single lay-up chance of an offense player, upon defense, and not allows a losing point is given, a case where a player who has foul by an offense player while participating
20 rebound to catch an air ball or a loose ball upon defense, and thus gets possession is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, or a player who intentionally strikes a fumbled ball so that the co-player can catch the ball, upon defense, is given,
25 a case where a layer who defends an assist of an offense player

with good defense, upon defense, but does not secure possession,
is given, and a case where a player who has a lower degree of
contribution than that of a co-player when allowing a co-player
to catch a shooting ball of an offense player through tap pass
5 during defense, is given.

(9) The direct other party morale lowering contribution
addition item includes a case where a player who does not allow
shooting with tack in a swift attack and no-mark situation,
causes error to occur, not allows shooting, and secures
10 possession, upon defense, is given, a case where a player who
commits offense foul (intentional, flagrant, punching, etc.)
while doing personal and team play upon defense, and gets
possession is given, a case where a player who snatches a ball
with the help of co-players (good defense) upon defense is
15 given, a case where a player who induces five second error
through approach defense, and directly helps to obtain
possession, upon defense, is given, a case where a player who
snatches a pass ball in a situation in which a co-player
induces error, upon defense, is given, a case where a player
20 who catches a fumbled ball by a co-player is given, a case
where a player who causes error of an offense player with good
defense, and thus independently acquires (steal) possession,
upon defense, is given, a case where a player who attempts
block shooting within and outside the 3 second limit section
25 and a player who produces a jump ball common possession (held

ball) of a ball immediately after stop when attempting a dunk and a field goal within and outside the 3 second limit section, upon defense, are given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously
5 with an offense player, upon defense, in a situation in which shooting of an offense player is a goal, and makes the goal no point and a jump ball, is given, a case where a player who defends an assist (within the 3 second limit section) of an offense player and also gets possession, a case where a player
10 who has a higher or similar degree of contribution than or as a co-player when allowing the co-player to catch a shooting ball by an offense player through a tap pass during defense, or a player who has a higher or similar degree of contribution than or as a tapper in the same situation, is given, and a case
15 where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in
20 getting possession, is given.

(10) The possible losing point prevention contribution addition item includes a case where a player who commits foul, while assisting the defense of offense of a co-player, upon defense, and thus causes a game to stop, is given, a case where
25 a player who commits foul that does not allow a free throw when

the number of defense players is smaller than that of attack players due to error of a co-player upon defense, a case where a layer who does not allow shooting with tact in a swift attack and no-mark situation, upon defense, causes error, but does not
5 secure possession, is given, a case where a player who does not allow shooting with tack in a swift attack and no-mark situation, causes error to occur, not allows shooting, and secures possession, upon defense, is given, a case where a player who snatches a ball with the help of co-players (good
10 defense) or a player who snatches a pass ball in a situation in which a co-player induces error, upon defense, is given, a case where a player who induces five second error through approach defense, and directly helps to obtain possession, upon defense, is given, a case where a player who has foul by an offense
15 player while participating rebound to catch an air ball or a loose ball upon defense, and thus get's possession is given, a case where a player who catches rebound to acquire possession, upon defense, is given, a case where a player who causes error of an offense player with good defense, and thus independently
20 acquires (steal) possession, upon defense, is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, or a player who intentionally strikes a fumbled ball so that the co-player can catch the ball, upon defense, is given, and a case where a player who defends
25 an assist (within the 3 second limit section) of an offense

player with good defense and also gets possession, or a player who does not get possession in the same situation, upon defense, is given.

(11) The game rhythm interception contribution addition
5 item includes a case where a player who commits foul while assisting offense of a co-player, upon defense, is given, a case where a player who commits foul that does not allow a free throw or foul that allows a free throw, when the number of defense players is smaller than that of attack players due to
10 error of a co-player, is given, a case where a player who commits foul while assisting defense of offense of a co-player when practicing a team foul, during defense, and thus allows two free throws is given, a case where a player who commits foul that does not allow a free throw when the number of
15 defense players is smaller than that of attack players due to error of a co-player upon defense, a case where a layer who does not allow shooting with tact in a swift attack and no-mark situation, upon defense, causes error, but does not secure possession, is given, a case where a player who does not allow
20 shooting with tack in a swift attack and no-mark situation, causes error to occur, not allows shooting, and secures possession, upon defense, is given, a case where a player who breaks the flow of a game by temporarily intercepting a ball of an attack player (kicking, pass interception touch out, foul
25 induction, etc.) upon defense, is given, a case where a player

who causes fumble of an offense player to produce a chance of a jump ball, upon defense, is given, a case where a player who causes a held ball from an offense player with self-effort, and attempts a jump ball, upon defense, is given, a case where a layer who helps a co-player to steal or snatch a ball, upon defense, is given, or a player who allows a co-player to catch a ball by attempting the same situation, is given, a case where a layer who causes error of an offense player, upon defense, but does not get possession, is given, a case where a layer who protects a pass road when an offense player does slow in, helping five second error to occur, upon defense, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is a goal, and makes the goal no point and a jump ball, is given, a case where a player who defends an assist (within and outside the 3 second limit section) of an offense player with good defense and also gets possession, or a player who does not get possession in the same situation, upon defense, is given.

(12) The teamwork stability opponent assignment contribution addition item includes a case where a player who commits foul while assisting offense of a co-player, upon defense, is given, a case where a player who commits foul that does not allow a free throw or foul that allows a free throw, when the number of defense players is smaller than that of

attack players due to error of a co-player, is given, a case where a player who commits foul, while assisting defense of offense of a co-player when a team foul is practiced, during defense, and allows a free throw, is given, a case where a player who allows shooting while assisting defense of offense of a co-player when a team foul is practiced, during defense, but not allows a losing point is given, a case where a player who allows shooting in a situation of a switch mark among defense players, but does not allow a losing point, upon defense, is given, a case where a player who commits offense foul (intentional, flagrant, punching, etc.) while doing personal and team play upon defense, and gets possession is given, a case where a player who causes fumble of an offense player to produce a chance of a jump ball, upon defense, is given, a case where a player who snatches a ball with the help of co-players (good defense) upon defense is given, a case where a player who snatches a pass ball in a situation in which a co-player induces error, upon defense, is given, a case where a player who positively defends an offense player who breaks through a co-player, upon defense, and thus contributes to formation of a normal defense shape, is given, a case where a player who induces five second error through approach defense, and directly helps to obtain possession, upon defense, is given, a case where a player who catches rebound to acquire possession, upon defense, is given, a case where a player who causes error

of an offense player with good defense, and thus independently acquires (steal) possession, upon defense, is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, or a player who intentionally strikes a fumbled ball so that the co-player can catch the ball, upon defense, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is a goal, and makes the goal no point and a jump ball, is given, a case where a player who defends an assist (within and outside the 3 second limit section) of an offense player and also gets possession, or a player who does not get possession in the same situation, upon defense, is given, a case where a player who helps a co-player to catch a shooting ball of an offense player through a tap pass, or directly catches the shooting ball by the offense player, during defense, is given, and a case where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in getting possession, is given.

(13) The losing point minimum-possible assignment contribution addition item includes a case where a player who

commits foul while assisting defense of offense of a co-player
when practicing a team foul, during defense, and thus allows
two free throws is given, a case where a player who
intentionally commits foul, and thus allows a free throw, upon
5 defense, in a situation in which an attack right (a team foul
is applied) is needed to obtain, and a case where a player who
commits foul that does not allow a free throw or foul that
allows a free throw, when the number of defense players is
smaller than that of attack players due to error of a co-player,
10 is given.

(14) The optimal defense ability contribution addition
item includes a case where a player who allows shooting in a
positive action situation, but does not allow a losing point,
upon defense, is given, a case where a player who allows
15 shooting in a situation of a switch mark among defense players,
but does not allow a losing point, upon defense, is given, a
case where a player who commits foul that does not allow a free
throw when the number of defense players is smaller than that
of attack players due to error of a co-player upon defense, a
20 case where a layer who does not allow shooting with tact in a
swift attack and no-mark situation, upon defense, causes error,
but does not secure possession, is given, a case where a player
who causes fumble of an offense player to produce a chance of a
jump ball, upon defense, is given, a case where a player who
25 causes a held ball from an offense player with self-effort, and

attempts a jump ball, upon defense, is given, a case where a player who intentionally commits foul, and thus allows a free throw, upon defense, in a situation in which an attack right (a team foul is applied) is needed to obtain, a case where a
5 player who positively defends a single lay-up chance of an offense player, upon defense, and not allows a losing point is given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an
10 offense player is a goal, and makes the goal no point and a jump ball, is given, a case where a player who defends an assist (within and outside the 3 second limit section) of an offense player, but does not get possession, is given, a case where a player who has a smaller degree of contribution than
15 that of a co-player when helping the co-player to catch a shooting ball of an offense player through tap pass, during defense, or has a smaller degree of contribution than that of a tapper in the same situation, and a case where a player who throws a ball, which is shoot or played by an offense player
20 and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in getting possession, is given.

25 (15) The full optimal defense ability contribution

addition item includes a case where a player who allows shooting while assisting defense of offense of a co-player when a team foul is practiced, during defense, but not allows a losing point is given, a case where a player who does not allow shooting with tack in a swift attack and no-mark situation, causes error to occur, not allows shooting, and secures possession, upon defense, is given, a case where a player who causes offense-foul (intentional, flagrant, etc.) to occur, and thus obtains possession, upon defense, is given, a case where a player who snatches a ball with the help of co-players (good defense) upon defense is given, a case where a player who snatches a pass ball in a situation in which a co-player induces error, upon defense, is given, a case where a player who catches a fumbled ball is given, a case where a player who induces five second error through approach defense, and directly helps to obtain possession, upon defense, is given, a case where a player who catches rebound to acquire possession, upon defense, is given, a case where a player who causes error of an offense player with good defense, and thus independently acquires (steal) possession, upon defense, is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, or a player who intentionally strikes a fumbled ball so that the co-player can catch the ball, upon defense, is given, a case where a player who attempts block shooting within and outside the 3 second limit section

and a player who produces a jump ball common possession (held ball) of a ball immediately after stop when attempting a dunk and a field goal within and outside the 3 second limit section, upon defense, are given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is a goal, and makes the goal no point and a jump ball, is given, a case where a player who defends an assist (within and outside the 3 second limit section) of an offense player and also gets possession, is given, a case where a player who has a higher or similar degree of contribution than or as a co-player when allowing the co-player to catch a shooting ball by an offense player through a tap pass during defense, or a player who has a higher or similar degree of contribution than or as a tapper in the same situation, is given, and a case where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in getting possession, is given.

(16) The defense positive participation contribution addition item includes a case where a player who allows an attempt of shooting, but does not allow a point through positive defense, when an opponent player attempts shooting of

alley-oop, no-mark lay-up, etc., upon defense, is given, a case where a player who takes positive assistance defense since a co-player is broken through, upon defense, but allows shooting to a co-player offense, and allows a losing point, is given, a case where a player who breaks the flow of a game by temporarily intercepting a ball of an attack player, is given, a case where a layer who helps a co-player to steal or snatch a ball, upon defense, is given, or a player who allows a co-player to catch a ball by attempting the same situation, is given, a case where a player who positively defends an offense player who breaks through a co-player, upon defense, and thus contributes to formation of a normal defense shape, is given, a case where a layer who causes error of an offense player, upon defense, but does not get possession, is given, a case where a layer who protects a pass road when an offense player does slow in, helping five second error to occur, upon defense, is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, or a player who intentionally strikes a fumbled ball so that the co-player can catch the ball, upon defense, is given, a case where a player who causes a held ball from an offense player with self-effort, and attempts a jump ball, upon defense, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is a goal, and

makes the goal no point and a jump ball, is given, a case where a player who defends an assist (within and outside the 3 second limit section) of an offense player, but does not get possession, is given, a case where a player who has a smaller
5 degree of contribution than that of a co-player when helping the co-player to catch a shooting ball of an offense player through tap pass, during defense, or has a smaller degree of contribution than that of a tapper in the same situation, a case where a player who attempts box out in order to catch a
10 ball immediately after shooting of an opponent player, unprepared touch of a ball, assist of a co-player's rebound, etc., upon defense, is given, and a case where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the
15 body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in failing in possession, is given.

(17) The full defense positive participation contribution
20 addition item includes a case where a player allows shooting to a co-player offense, but not allows a losing point, in a situation where the player takes positive assistance defense since a co-player is broken through, upon defense, is given, a case where a player who snatches a ball with the help of co-
25 players (good defense) upon defense is given, a case where a

player who snatches a pass ball in a situation in which a co-player induces error, upon defense, is given, a case where a player who catches a fumbled ball is given, a case where a player who induces five second error through approach defense, and directly helps to obtain possession, upon defense, is given, a case where a player who has foul by an offense player while participating rebound to catch an air ball or a loose ball upon defense, and thus gets possession is given, a case where a player who catches rebound to acquire possession, upon defense, is given, a case where a player who causes error of an offense player with good defense, and thus independently acquires (steal) possession, upon defense, is given, a case where a player who attempts block shooting within and outside the 3 second limit section and a player who produces a jump ball common possession (held ball) of a ball immediately after stop when attempting a dunk and a field goal within and outside the 3 second limit section, upon defense, are given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is a goal, and makes the goal no point and a jump ball, is given, a case where a player who defends an assist (within and outside the 3 second limit section) of an offense player and also gets possession, is given, a case where a player who has a higher or similar degree of contribution than or as a co-player when allowing the

co-player to catch a shooting ball by an offense player through a tap pass during defense, or a player who has a higher or similar degree of contribution than or as a tapper in the same situation, is given, and a case where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in getting possession, is given.

- 10 (18) The teamwork assistance contribution addition item includes a case where a player who takes positive assistance defense since a co-player is broken through, upon defense, but allows shooting to a co-player offense, and allows a losing point, is given, a case where a player who allows shooting in a situation of a switch mark among defense players, but does not allow a losing point, upon defense, is given, a case where a layer who helps a co-player to steal or snatch a ball, upon defense, is given, or a player who allows a co-player to catch a ball by attempting the same situation, is given, a case where
- 15 a player who positively defends an offense player who breaks through a co-player, upon defense, and thus contributes to formation of a normal defense shape, is given, a case where a player who intentionally commits foul, and thus allows a free throw, upon defense, in a situation in which an attack right
- 20 (a team foul is applied) is needed to obtain, a case where a
- 25

layer who protects a pass road when an offense player does slow in, helping five second error to occur, upon defense, is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, or a player who
5 intentionally strikes a fumbled ball so that the co-player can catch the ball, upon defense, is given, a case where a layer who helps a co-player to catch a shooting ball of an offense player through tap pass, or a player who directly catches the shooting ball in the same situation, upon defense, is given, a
10 case where a player who attempts box out in order to catch a ball immediately after shooting of an opponent player, unprepared touch of a ball, assist of a co-player's rebound, etc., upon defense, is given, and a case where a player who throws a ball, which is shoot or played by an offense player
15 and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in failing in possession, is given.

20 (19) The error inducing factor assignment contribution addition item includes a case where a layer who causes error of an offense player without allowing shooting with tact in a swift attack and no-mark situation, upon defense, but does not get possession, is given, a case where a layer who causes error
25 of an offense player, upon defense, but does not get possession,

is given, a case where a layer who helps a co-player to steal or snatch a ball, upon defense, is given, a case where a player who causes fumble of an offense player to produce a chance of a jump ball, upon defense, is given, a case where a player who
5 causes a held ball from an offense player with self-effort, and attempts a jump ball, upon defense, is given, a case where a layer who protects a pass road when an offense player does slow in, helping five second error to occur, upon defense, is given, a case where a player who attempts block shooting within and
10 outside the 3 second limit section and a player who produces a jump ball common possession (held ball) of a ball immediately after stop when attempting a dunk and a field goal within and outside the 3 second limit section, upon defense, are given, and a case where a player who commits violation (basket
15 interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is no goal, and makes the goal no point and a jump ball, is given.

(20) The full error-inducing assignment contribution
20 addition item includes a case where a player who does not allow shooting with tact in a swift attack and no-mark situation, causes error not to allow a point, and obtains possession, upon defense, is given, a case where a player who causes offense-foul (intentional, flagrant, etc.) to occur, and thus obtains
25 possession, upon defense, is given, a case where a player who

helps a co-player to catch a fumbled ball in an attempt of steal or snatch, upon defense, is given, a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, or a player who intentionally strikes a fumbled
5 ball so that the co-player can catch the ball, upon defense, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) simultaneously with an offense player, upon defense, in a situation in which shooting of an offense player is no goal, and makes the goal no point and a
10 jump ball, is given.

(21) The score chance-possible assignment contribution addition item includes a case where a player who does not allow shooting with tack in a swift attack and no-mark situation, causes error to occur, not allows shooting, and secures
15 possession, upon defense, is given, a case where a player who causes offense-foul (intentional, flagrant, punching, loose ball, etc.) to occur, and thus obtains possession, upon defense, is given, a case where a player who induces five second error through approach defense, and directly helps to obtain
20 possession, upon defense, is given, a case where a player who snatches a pass ball in a situation in which a co-player induces error, upon defense, is given, a case where a player who catches a fumbled ball is given, a case where a player who catches rebound to acquire possession, upon defense, is given,
25 a case where a player who causes error of an offense player

with good defense, and thus independently acquires (steal) possession, upon defense, is given, a case where a player who defends an assist (within and outside the 3 second limit section) of an offense player and also gets possession, is
5 given, a case where a player who has a higher or similar degree of contribution than or as a co-player when allowing the co-player to catch a shooting ball by an offense player through a tap pass during defense, or a player who has a higher or similar degree of contribution than or as a tapper in the same
10 situation, is given, and a case where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the body of the offense player, upon defense, so that the ball is
15 sent to a co-player, resulting in getting in possession, is given.

(22) The full score-possible assignment contribution addition item includes a case where a player who causes offense-foul (intentional, flagrant, punching, etc.) to occur,
20 upon defense, and thus obtains a chance of a free throw and possession, is given.

(23) The other party personal defense shrinkage contribution addition item includes a case where a player who induces offense foul (personal, intentional, flagrant, punching,
25 the loose ball, etc.) upon defense, is given.

(24) The opponent team defense shrinkage contribution addition item includes a case where a player who induces offense foul (personal, intentional, flagrant, punching or loose ball), upon defense, is given.

5 (25) The defense confusion recovery contribution addition item includes a case where a player who positively defends an offense player who breaks through a co-player, upon defense, and thus contributes to formation of a normal defense shape, is given, and a case where a player who commits foul that does not
10 allow a free throw or foul that allows a free throw, when the number of defense players is smaller than that of attack players due to error of a co-player, is given.

(26) The possession acquisition contribution addition item includes a case where a player who induces five second
15 error through approach defense, and directly helps to obtain possession, upon defense, is given, a case where a player who commits offense foul (intentional, flagrant, punching, etc.) and thus obtains possession, upon defense, is given, a case where a player who snatches a ball with the help of co-players
20 (good defense) upon defense is given, a case where a player who snatches a pass ball in a situation in which a co-player induces error, upon defense, is given, a case where a player who catches a fumbled ball is given, a case where a player who does not allow shooting with tack in a swift attack and no-mark
25 situation, causes error to occur, not allows shooting, and

secures possession, upon defense, is given, a case where a player who has foul by an offense player while participating rebound to catch an air ball or a loose ball upon defense, and thus gets possession is given, a case where a player who
5 catches rebound to acquire possession, upon defense, is given, a case where a player who causes error of an offense player with good defense, and thus independently acquires (steal) possession, upon defense, is given, a case where a player who defends an assist (within and outside the 3 second limit
10 section) of an offense player and also gets possession, is given, a case where a player who has a higher or similar degree of contribution than or as a co-player when allowing the co-player to catch a shooting ball by an offense player through a tap pass during defense, or a player who has a higher or
15 similar degree of contribution than or as a tapper in the same situation, is given, and a case where a player who throws a ball, which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player, or hits the
20 body of the offense player, upon defense, so that the ball is sent to a co-player, resulting in getting possession, is given.

(27) The opponent teamwork formation hindering contribution addition item includes a case where a player who commits flagrant foul while doing personal and team play upon
25 defense, and is thus made walk out is given.

(28) The opponent team member formation obstruction contribution addition item includes a case where a player who causes a subject player to commit offense foul (flagrant, punching, etc.), upon defense, thus walking out and not attending one game, is given, a case where a player who commits flagrant foul while doing personal and team play upon offense, and is thus made walk out is given, a case where a player who commits punching foul, etc., while doing personal and team play upon offense, and is thus ordered to walk out and not to attend one or more plays, is given.

(29) The swift attack-possible chance providing contribution addition item includes a case where a player who causes error of an offense player with good defense, and thus independently acquires (steal) possession, upon defense, is given, a case where a player who snatches a ball with good defense, and thus acquires possession, upon defense, is given, and a case where a layer who strikes a ball of an offense player so that a co-player can catch the ball, a player who intentionally strikes a fumbled ball so that the co-player can catch the ball, upon defense, or a player who catches the fumbled ball, is given.

(30) The positive sacrifice participation contribution addition item includes a case where a player who commits foul while assisting offense of a co-player, upon defense, is given, a case where a player who commits foul that does not allow a

free throw or foul that allows a free throw, when the number of defense players is smaller than that of attack players due to error of a co-player, is given, a case where a player who commits intentional foul and thus allows a free throw (for 5 three points before game ends), in a situation in which an attack right needs to be obtained in defense (a team foul is applied), is given, a case where a player who tries to secure possession through a pass to a co-player, but fails in possession is given, a case where a player who throws a ball, 10 which is shoot or played by an offense player and is then about to be out after touching the hands or the body of a defense player, to the body of the offense player so that the ball is out, or passes the ball to the do-player, but fails to obtain possession, is given.

15 Fourthly, the principle of writing each of the defense subtraction factors is as follows.

(1) The minimum self-blame losing point assignment error subtraction item includes a case where a player who takes an positive action (follow) in a shooting action when allowing 20 shooting or field shooting comparable to under-goal as the player is broken through by an offense player and thus giving a losing point, upon defense, is given, a case where a player who has less responsibility of error, upon defense, when allowing a losing point while playing a switch mark among defense players 25 when defending a pattern play by block and screen of an

opponent, is given, a case where a player who commits foul under a shooting action of offense players when a team foul is applied, upon defense, making shooting failed, but allows a goal under a free throw situation, thus losing a point, is given, and a case where a player who commits foul under a shooting action of offense players (before and after a team foul is applied), upon defense, thus making shooting failed, but gives both the results of a losing point and a non-losing point under a free throw situation, is given.

- 10 (2) The full self-blame losing point assignment error subtraction item includes a case where a player who does not take a positive action (follow, etc.) in a shooting action when allowing shooting or field shooting comparable to under-goal as the player is broken through by an offense player and thus giving a losing point, upon defense, is given, a case where a player who has similar or great responsibility of error, upon defense, when allowing a losing point while playing a switch mark among defense players when defending a pattern play by block and screen of an opponent, a case where a player who commits foul (foul during a shooting action, a loose ball foul after a shooting action, etc.) upon defense, allows a free throw, and loses a point, is given, a case where a player who provides a free throw and loses a point, under a situation in which the player commits loose ball foul or foul during a shooting action after an offense player throws shooting, upon

defense, and a case where a player who commits foul to a co-player offense of a shooter, thus providing a free throw and also losing a point, when an offense player throws shooting and a ball progress toward a basket, upon defense, is given.

- 5 (3) The full self-blame possible losing point error subtraction item includes a case where a player who commits foul a when a team foul is applied upon defense, and allows a free throw, is given, a case where a player who commits foul to allow a free throw while defending single lay-up shooting by
- 10 break-through of an offense player before a team foul is applied, upon defense, is given, a case where a player who commits foul against an offense player who is slow in before the offense player is slow in a line out upon defense when a team foul is applied, and thus allows a free throw, is given, a
- 15 case where a player who commits foul (losing a point) upon defense, while defending an offense player in a swift attack of an opponent team before a team foul is applied, and allows a free throw, is given, a case where a player who takes away a ball before the ball touches a ring or a back board in an in-
- 20 play situation immediately after a free throw attempt of an opponent player, upon defense, thus losing a point, and commits error when one additional free throw is given, is given, a case where a player who commits violation simultaneously with a free throw fail of an offense player, upon defense, gets a re-free
- 25 throw, but fails in the re-free throw, is given, a case where a

player is broken through by an offense player and thus giving a losing point, upon defense, is given, a case where a player who commits foul while defending an offense player in a swift attack (necessary to preclude rhythm) of an opponent team
5 before a team foul is applied, upon defense, loses a point, and also allows a free throw, is given, a case where a player who commits foul related to a point in a situation in which an attack time of an opponent team remains a little (within five seconds) upon defense before a team foul is applied, and thus
10 allows a losing point (including free throw) is given, a case where a defense-miss player who receives assistance defense of a co-player since he misses an offense player, upon defense, but loses a points, is given, a case where a player who commits violation (line-cross, goaltending, basket interfere, etc.) in
15 a no goal situation upon a free throw, and thus allows a re-free throw to be a goal, or a player who takes away a ball before the ball touches a ring or a back board in an in-play situation immediately after a free throw attempt of an opponent player, and thus allows a losing point, and also makes error
20 when one additional free throw is given, is given, a case where a player who commits foul under a shooting action of offense players before a team foul is applied, upon defense, making shooting failed, but allows a goal under a free throw situation, thus losing a point, is given, and a case where a player who
25 allows shooting to be a goal in, thus losing a point and also

providing a free throw, upon defense, under a situation in which the player commits loose ball foul after an offense player throws shooting.

(5) The countermeasure absence losing point error subtraction item includes a case where a player who commits foul (during shooting action) while allowing a losing point to an offense player, upon defense, allows a free through, and thus loses a point, is given, a case where a player who commits technical or intentional foul upon defense, allows a free throw, and loses a point, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) in a basket no goal situation of an offense player, upon defense, and thus provides an own team with a losing point, is given, a case where a player who allows shooting to be a goal in, thus losing a point and also providing a free throw, upon defense, under a situation in which the player commits loose ball foul after an offense player throws shooting, a case where a player who mistakenly puts a ball in own basket while playing a seesaw game with an offense player around the under-goal, upon defense, thus losing a point, is given, a case where a player who commits foul to a co-player offense of a shooter, thus providing a free throw and also losing a point, when an offense player throws shooting and a ball progress toward a basket, upon defense, is given, a case where a player who makes mistakes while attempting steal and snatch during a defense

process when a team foul is applied, gets a free throw since a co-player makes alternate personal foul in a situation in which the number of defense players is smaller than that of attack players, but fails in the free throw, is given, a case where a
5 player who makes mistakes while attempting steal and snatch upon defense, when a co-player included in the number of defense player, which is smaller than that of attack players, commits foul (shooting action) that allows a free throw, and thus does a free throw losing point, is given, and a case where
10 a player who provides a cause of a losing point by making mistakes while attempting steal and snatch in a defense process when a co-player allows the losing point while doing the alternate defense in a situation in which the number of defense player is smaller than that of attack players, is given.

15 (6) The countermeasure absence possible losing point error subtraction item includes a case where a player who commits foul (during shooting action) while allowing a losing point to an offense player, upon defense, allows a free through, and thus loses a point, is given, a case where a player who
20 commits 3 second violation, upon defense, is given with one free throw, and resets an attack time is given, a case where a player who commits technical, intentional, shoot attempt, flagrant of losing point, the fourth quarter or personal (violation having no relation to a ball) before slow in becomes
25 in a defense situation within 2 minutes of an extension period

end, or away foul, and thus allows one free throw, is given, a case where a player who commits flagrant, punching or elbow foul, and thus allows two free throws, is given, a case where a player who commits intentional foul (giving two free throws, in
5 goal in (possession acquisition) or one free throw 1, re-provision of attack right of a ball) within 2 minutes before the fourth quarter or extension period end upon defense (a state where a team foul is applied if not having relation to team foul) is given, a case where a player who commits foul
10 against an offense player who is slow in before the player is slow in a line out upon defense when a team foul is applied, and thus allows a free throw, is given, a case where a player who allows shooting to be a goal in, thus losing a point and also providing a free throw, upon defense, under a situation in
15 which the player commits loose ball foul after an offense player throws shooting, a case where a player who makes mistakes while attempting steal and snatch during a defense process when a team foul is applied, gets a free throw since a co-player makes alternate personal foul in a situation in which
20 the number of defense players is smaller than that of attack players, but fails in the free throw, is given, a case where an attempt error player who makes mistakes while attempting steal and the snatch upon defense when a co-player, who is included in the number of defense players, which is smaller than that of
25 attack players, commits foul (shooting action) that allows a

free throw, and a free throw is given, is given, and a case where a player who receives help from a co-player since he is broken through during defense upon defense before and after a team foul is applied, when the co-player gets a losing point
5 (including free throw by foul) to the person in question offense is given.

(7) The countermeasure absence-inducing error subtraction item includes a case where a player who does not participate in rebound or does not give minimum help to a team although it is
10 not a swift attack situation upon defense rebound, a player who does not box out an offense player around him and causes a co-player to have his possession taken out by the offense player, and a player who lose possession due to heedlessness in a situation in which the layer can sufficiently secure rebound,
15 are given, a case where a player who commits a meaningless foul when an opponent team goes this way and that without finding a way out of an attack before and after a team foul is applied, upon defense, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) in a basket no
20 goal situation of an offense player, upon defense, and thus provides an own team with a losing point, is given, a case where a player who commits 3 second violation upon defense, gives one free throw, and resets an attack time is given, a case where a player who commits flagrant foul (two free throws,
25 one free throw of shoot attempt and losing point, re-provision

of the attack right, walkout of a foul player, etc.), upon defense, is given, a case where a player who commits elbow foul (two free throw and play time reset) in a state where an attack team holds a ball within 2 minutes of the fourth quarter or extension period end, upon defense, is given, a case where a player who commits personal foul (having no relation to a ball) or away foul (the rule on which the victory is not changed due to foul) before a ball slows in in a situation in which an attach team holds a ball within 2 minutes of the fourth quarter or extension period end (one free throw, an attack time reset), upon defense, is given, a case where a player who commits punching foul (two free throws, a team foul, walk-out, one game suspension <depending upon a decision of Financial Committee>) upon defense (dead ball and game proceeding situation) is given, a case where a player who commits intentional foul (giving two free throws, in goal in (possession acquisition) or one free throw 1, re-provision of attack right of a ball) within 2 minutes before the fourth quarter or extension period end upon defense (a state where a team foul is applied if not having relation to team foul) is given, a case where a player who commits foul to another player who slows in before an offense player slows in at the line out upon defense before a team foul is applied (giving a free throw), is given, a case where a player who commits foul, in a situation in which an attack time of an offense player exceeds

20 seconds (the remaining time is within four seconds) before and after a team foul is applied upon defense, and thus provides an re-attack time, is given, a case where a player who commits foul while defending an offense player in a swift
5 attack (necessary to preclude rhythm) of an opponent team (before a team foul is applied), upon defense, loses a point, and also allows a free throw, is given, a case where a player who makes mistakes while attempting steal and snatch during a defense process (when a team foul is applied), and gives a free
10 throw due to alternate personal foul of a co-player in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who makes mistakes while attempting steal and snatch during a defense process (before a team foul is applied), and provides a
15 cause of the foul when the co-player commits alternate personal foul in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who receives help from a co-player since he is broken through during defense upon defense before and after a team
20 foul is applied, when the co-player gets a losing point (including free throw by foul) to the person in question offense is given, a case where a player who does not lose a point when the player makes mistakes while attempting steal and snatch, upon defense, which a co-player, who is included in the
25 number of defense players, which is smaller than that of

defense players, commits foul (shooting action) that allows a free throw, when losing a free throw, when does not lose a point, and when a losing point and a non-losing point coexist, is given, a case where a player who receives help from a co-
5 player since he is broken through during defense upon defense before and after a team foul is applied, when the co-player gets a losing point (including free throw by foul) to the person in question offense is given, and a case where a player who commits foul related to a point in a situation in which an
10 attack time of an opponent team remains a little (within five seconds) upon defense before a team foul is applied, and thus allows a losing point (including free throw) is given.

(8) The assist self-blame losing point-considered error subtraction item includes a case where a player who allows a
15 losing point to an offense player of the person in question while defending centered on assistance defense in a situation considering point offense, upon defense, or a player who allows a point to the person in question offense while doing assistance defense in order to defend an offense player of a
20 co-player, is given, a case where a player who allows a losing point to an offense player of a co-player while doing alternate assistance defense since the co-player is broken through, upon defense, is given, a case where a player who commits alternate foul and loses a point by a free throw when a co-player makes
25 mistakes while attempting steal and snatch upon defense (when a

team foul is applied) and commits alternate personal foul in a situation in which the number of defense players is smaller than that of attack players, so that a free throw is given, is given, a case where a player who makes mistakes while attempting steal and snatch upon defense and does a free throw losing point when a co-player, who is included in the number of defense players, which is smaller than that of attack players, commits foul (shooting action) that allows a free throw, is given, and a case where a player who makes mistakes while attempting steal and snatch in a defense process (when a team foul is applied), and loses a point when the co-player allows while doing alternate defense is given.

(9) The assistance self-blame-possible losing point-considered error subtraction item includes a case where a player who commits foul while doing alternate assistance defense since a co-player is broken through, upon defense, and allows a free throw, is given, a case where a player who commits foul in a shooting action while doing alternate assistance defense since a co-player is broken through by an offense player, upon defense, and allows a free throw, is given, and a case where a player who commits alternate foul, gives a free throw, but does not lose a point, when a co-player makes mistakes while attempting steal and snatch when a team foul is applied upon defense and commits alternate personal foul in a situation in which the number of defense players is smaller

than that of attack players, and thus gives a free throw, is given.

(10) The situation countermeasure ability lack error subtraction item includes a case where a player who allows a losing point since he does not predict the possibility, upon defense, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) in a basket no goal situation of an offense player, upon defense, and thus provides an own team with a losing point, is given, a case where a player who commits intentional foul (giving two free throws, in goal in (possession acquisition) or one free throw 1, re-provision of attack right of a ball) within 2 minutes before the fourth quarter or extension period end upon defense (a state where a team foul is applied if not having relation to team foul) is given, a case where a player who provides a cause of foul, a free throw and a losing point when a co-player commits alternate personal foul and provides a free throw, while attempting steal and snatch (when a team foul is applied) upon defense in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who allows shooting to be a goal in, thus losing a point and also providing a free throw, upon defense, under a situation in which the player commits loose ball foul after an offense player throws shooting, a case where a player who commits foul when a team foul is applied during play, and

thus allows a free throw, is given, a case where a player who commits foul while defending an offense player in a swift attack (necessary to preclude rhythm) of an opponent team, upon defense, loses a point, and also allows a free throw, is given,

5 a case where a defense-miss player who receives assistance defense of a co-player since he misses an offense player, upon defense, but loses a points, is given, a case where a defense miss player is given when the player commits foul in the same situation, a case where a player (error player) who provides a

10 cause of foul when a co-player commits alternate personal foul and provides a free throw, while attempting steal and snatch (before a team foul is applied) upon defense in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who provides a

15 cause of a losing point a co-player commits alternate personal foul and allows the losing point, while attempting steal and snatch (when a team foul is applied) upon defense in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player

20 who makes mistakes while attempting steal and snatch upon defense and does a free throw losing point when a co-player, who is included in the number of defense players, which is smaller than that of attack players, commits foul (shooting action) that allows a free throw, is given, a case where

25 players who allow a losing point while playing a switch mark

among defense players, upon defense, when defending a pattern play by block and screen of an opponent, are given, a case where a player who mistakenly puts a ball in own basket while playing a seesaw game with an offense player around the under-
5 goal, upon defense, thus losing a point, is given, a case where a player who obstructs an shooting action of an offense player through foul upon defense (before a team foul is applied) or obstructs single lay-up shooting of an offense player by break-through through foul (not loses a point in shooting and free
10 throw) is given (responsibility on the foul in the shooting action), a case where a player who receives help from a co-player since he is broken through during defense upon defense (before and after a team foul is applied), when the co-player gets a losing point (including free throw by foul) to the
15 person in question offense is given, a case where a player who commits foul under a shooting action of an offense player (before a team foul is applied) upon defense, making the shooting failed, but allows a free throw, thus giving both the results of a losing point and a non-losing point is given, a
20 case where a player who commits foul under a shooting action of offense players (before and after a team foul is applied) upon defense, making shooting failed, but allows a goal under a free throw situation, thus losing a point, is given, a case where a player who commits a meaningless foul when an opponent team
25 goes this way and that without finding a way out of an attack

(before and after a team foul is applied), upon defense, is given, a case where a player who commits foul to a co-player offense of a shooter, thus providing a free throw and also losing a point, when an offense player throws shooting and a ball progress toward a basket, upon defense, is given, a case where a player who commits foul, in a situation in which an attack time of an offense player exceeds 20 seconds (the remaining time is within four seconds) before and after a team foul is applied upon defense, and thus provides an re-attack time, is given, a case where a player who commits foul related to a point in a situation in which an attack time of an opponent team remains a little (within five seconds) upon defense (before a team foul is applied), and thus allows a losing point (including free throw) is given, and a case where a player who does not participate in rebound or does not give minimum help to a team although it is not a swift attack situation upon defense rebound, a player who does not box out an offense player around him and causes a co-player to have his possession taken out by the offense player, and a player who lose possession due to heedlessness in a situation in which the layer can sufficiently secure rebound, are given.

(11) The assist countermeasure ability lack error subtraction item includes a case where a player who provides a cause of foul when a co-player commits alternate personal foul while attempting steal and snatch (before a team foul is

applied) upon defense in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who commits alternate foul when a co-player makes mistakes while attempting steal and snatch

5 (when a team foul is applied) upon defense in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who makes mistakes while attempting steal and snatch upon defense and does a free throw losing point when a co-player, who is

10 included in the number of defense players, which is smaller than that of attack players, commits foul (shooting action) that allows a free throw, is given, a case where a player who loses a point when a co-player makes mistakes while attempting steal and snatch (when a team foul is applied) upon defense and

15 loses a point while doing alternate defense in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who allows a point to the person in question offense while doing assistance defense in order to defend an offense player of a co-player

20 upon defense (before or after a team foul is applied), is given, a case where a player commits foul to the person in question offense while doing assistance defense of self-effort in order to defend an offense player of a co-player, upon defense, is given, a case where a player who commits foul while doing

25 alternate assistance defense since a co-player is broken

through, when a team foul is applied, upon defense, and allows
a free throw, is given, a case where a player who allows a
losing point (including provision of a free throw) while doing
alternate defense of an offense player who is missed by a co-
5 player, upon defense, is given, a case where a player who
commits foul while doing alternate defense by missing an
offense player, upon defense, is given, and a case where a
player who commits alternate personal foul is given.

(12) The basic defense ability lack error subtraction
10 item includes a case where a player who commits foul due to a
mistake of the person in question, upon defense, and provides
an attack time reset to an opponent team, is given, a case
where a player who commits 3 second violation upon defense,
gives one free throw, and resets an attack time is given, a
15 case where a player who commits flagrant foul (two free throws,
one score option two free throw, maintaining of the attack
right, walkout of a foul player, etc.), upon defense, is given,
a case where a player who commits personal foul (having no
relation to a ball) or away foul (the rule on which the victory
20 is not changed due to foul) before a ball slows in in a
situation in which an attack team holds a ball within 2
minutes of the fourth quarter or extension period end (one free
throw, an attack time reset), upon defense, is given, a case
where a player who commits elbow foul (two free throw and play
25 time reset) in a state where an attack team holds a ball within

2 minutes of the fourth quarter or extension period end, upon
defense, is given, a case where a player who commits punching
foul (two free throws, a team foul, walk-out, one game
suspension) upon defense (a dead ball and game proceeding
5 situation), is given, a case where a player who does not follow
a shooting action of an offense player, or allows full shooting,
upon defense, is given, a case where a player who commits foul
(during shooting action) while allowing a losing point to an
offense player, upon defense, allows a free through, and thus
10 loses a point, is given, a case where a player who allows
shooting to be a goal in, thus losing a point and also
providing a free throw, upon defense, under a situation in
which the player commits loose ball foul after an offense
player throws shooting, a case where a player who commits foul
15 against an offense player who is slow in before the offense
player is slow in a line out upon defense (before and when a
team foul is applied), and thus allows a free throw, is given,
a case where a player who commits technical foul, intentional
foul, etc. upon defense, allows a free throw, and loses a point,
20 is given, a case where a defense-miss player who receives
assistance defense of a co-player since he misses an offense
player, upon defense, but loses a points, is given, a case
where a player who commits foul in the same situation, a case
where a player who mistakenly puts a ball in own basket while
25 playing a seesaw game with an offense player around the under-

goal, upon defense, thus losing a point, is given, a case where a player who commits violation (line cross, goaltending, basket interfere, etc.) in a situation in which a free throw of an opponent team is no goal upon defense, so that a re-free throw

5 becomes a goal, is given, a case where a player who takes away a ball before the ball touches a ring or a back board in an in-play situation immediately after a free throw attempt of an opponent player, upon defense, thus allowing a losing point, and also makes error when one additional free throw is given,

10 is given, a case where a player who commits violation simultaneously with fails in a free throw of an offense player, upon defense, and thus gets a re-free throw is given, a case where a player who commits foul under a shooting action of offense players (before and after a team foul is applied) upon

15 defense, making shooting failed, but allows a goal under a free throw situation, thus losing a point, is given, a case where a player who commits foul under a shooting action of offense players (before a team foul is applied) upon defense, making shooting failed, but allows a free throw, thus giving both the

20 results of a losing point and a non-losing point, is given, a case where a player who commits a meaningless foul when an opponent team goes this way and that without finding a way out of an attack (before and after a team foul is applied), upon defense, is given, a case where a player who commits foul to a

25 co-player offense of a shooter, thus providing a free throw and

also losing a point, when an offense player throws shooting and a ball progress toward a basket, upon defense, is given, a case where a player who commits foul, in a situation in which an attack time of an offense player exceeds 20 seconds (the
5 remaining time is within four seconds) before and after a team foul is applied upon defense, and thus provides an re-attack time, is given, a case where a player who commits foul related to a point in a situation in which an attack time of an opponent team remains a little (within five seconds) upon
10 defense (before a team foul is applied), and thus allows a losing point (including free throw) is given, a case where a player who allows a point to the person in question offense while doing assistance defense in order to defend an offense player of a co-player upon defense (before or after a team foul
15 is applied), is given, a case where a player who commits foul while defending an offense player in a swift attack (necessary to preclude rhythm) of an opponent team before a team foul is applied, upon defense, loses a point, and also allows a free throw, is given, and a case where a player who does not
20 participate in rebound or does not give minimum help to a team although it is not a swift attack situation upon defense rebound, a player who does not box out an offense player around him and causes a co-player to have his possession taken out by the offense player, and a player who lose possession due to
25 heedlessness in a situation in which the layer can sufficiently

secure rebound, are given.

(13) The indirect opponent team morale-inspired error subtraction item includes a case where a layer who allows a generate losing point to an opponent team due to negative and
5 positive or order to a team, upon defense, is given, a case where a player who commits foul when a team foul is applied during play, and thus allows a free throw, is given, a case where a player who provides a cause of foul, free throw and a losing point when a co-player makes mistakes while attempting
10 steal and snatch (when a team foul is applied), upon defense, and thus commits alternate personal foul in a situation in which the number of defense players is smaller than that of attack players and thus provides a free throw, is given, a case where a player who commits foul against an offense player who
15 is slow in before the offense player is slow in a line out upon defense (before and after a team foul is applied), and thus allows a free throw, is given, a case where a player who allows a point to the person in question offense while doing assistance defense in order to defend an offense player of a
20 co-player upon defense (before or after a team foul is applied), is given, a case where a player who makes mistakes while attempting steal and snatch upon defense and does a free throw losing point when a co-player, who is included in the number of defense players, which is smaller than that of attack players,
25 commits foul (shooting action) that allows a free throw, is

given, a case where a player who commits foul under a shooting action of offense players (when a team foul is applied) upon defense, making shooting failed, but allows a goal under a free throw situation, thus losing a point, is given, a case where a
5 player who has less responsibility of error, upon defense, when allowing a losing point while playing a switch mark among defense players when defending a pattern play by block and screen of an opponent, is given, a case where a player who commits violation (line cross, goaltending, basket interfere, etc.) in a situation in which a free throw of an opponent team
10 is no goal upon defense, resulting in a re-free throw, is given, a case where a player who commits foul under a shooting action of an offense player (before a team foul is applied) upon defense, making the shooting failed, but allows a free throw,
15 thus giving both the results of a losing point and a non-losing point is given, and a case where a player who commits foul to a co-player offense of a shooter, thus providing a free throw and also losing a point, when an offense player throws shooting and a ball progress toward a basket, upon defense, is given.

20 (14) The direct opponent team morale-inspired error subtraction item includes a case where a layer who allows a losing point (alley-oop, dunk, dizzy lay-up, etc.) that becomes a condition to inspire morale of an opponent team, upon defense, is given, a case where a player who commits violation (basket
25 interfere, goaltending, etc.) in a basket no goal situation of

an offense player, upon defense, and thus provides an own team with a losing point, is given, a case where a player who commits flagrant foul (two free throws, one free throw of shoot attempt and losing point, re-provision of the attack right, walkout of a foul player, etc.), upon defense, is given, a case where a player who commits elbow foul (two free throw and play time reset) in a state where an attack team holds a ball within 2 minutes of the fourth quarter or extension period end, upon defense, is given, a case where a player who commits punching foul (two free throws, a team foul, walk-out, one game suspension <depending upon a decision of Financial Committee>) upon defense (dead ball and game proceeding situation) is given, a case where a player who commits intentional foul (giving two free throws, in goal in (possession acquisition) or one free throw 1, re-provision of attack right of a ball) within 2 minutes before the fourth quarter or extension period end upon defense (a state where a team foul is applied if not having relation to team foul) is given, a case where a player who does not take a minimum action when allowing shooting or field shooting comparable to under-goal as the player is broken through by an offense player and thus giving a losing point, upon defense, is given, a case where a player who commits foul (during shooting action) while allowing a losing point to an offense player, upon defense, allows a free through, and thus loses a point, is given, a case where a player who commits

personal foul (having no relation to a ball) or away foul (the rule on which the victory is not changed due to foul) before a ball slows in in a situation in which an attack team holds a ball within 2 minutes of the fourth quarter or extension
5 period end (one free throw, an attack time reset), upon defense, is given, a case where a layer who provides a losing point and a free throw in a situation an offense player throws shooting and commits a loose ball foul, upon defense, is given, a case where a player who commits technical foul, intentional foul,
10 etc. upon defense, and thus allows one free throw, is given, a case where a defense-miss player who receives assistance defense of a co-player since he misses an offense player, upon defense, but loses a points, is given, a case where a player who has greater or similar responsibility of error, upon
15 defense, when allowing a losing point while playing a switch mark among defense players when defending a pattern play by block and screen of an opponent, is given, a case where a player who mistakenly puts a ball in own basket while playing a seesaw game with an offense player around the under-goal, upon
20 defense, thus losing a point, is given, a case where a player who takes away a ball before the ball touches a ring or a back board in an in-play situation immediately after a free throw attempt of an opponent player, upon defense, thus allowing a losing point, and also makes error when one additional free
25 throw is given, is given, a case where a player commits foul

under a shooting action of an offense player upon defense (before and after a team foul is applied), making the shooting failed, allows a free throw, resulting in all goals, and loses a point is given, a case where a player who commits foul to a co-player offense of a shooter, thus providing a free throw and also losing a point, when an offense player throws shooting and a ball progress toward a basket, upon defense, is given, a case where a player who provides a cause of a losing point when the player makes mistakes while attempting steal and snatch (when a team foul is applied), upon defense, and thus allows the losing point in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player who commits foul related to a point in a situation in which an attack time of an opponent team remains a little (within five seconds) upon defense (before a team foul is applied), and thus allows a losing point (including free throw) is given, and a case where a player who commits foul while defending an offense player in a swift attack (necessary to preclude rhythm) of an opponent team before a team foul is applied, upon defense, loses a point, and also allows a free throw, is given.

(15) The personal defense shrinkage error subtraction item includes a case where a player who commits double fouls simultaneously with personal foul (a loose ball, etc.) or offense before and after a team foul is applied upon defense is

given, a case where a player who commits technical foul, intentional foul, loose ball foul, etc. (providing a free throw to an opponent team), upon defense, is given, and a case where a player who makes mistakes while attempting steal and snatch
5 (when a team foul is applied), upon defense, and commits alternate personal foul in a situation in which the number of defense players is smaller than that of attack players, is given.

(16) The personal defense shrinkage fostering error
10 subtraction item includes a case where a player who is broken through by an offense player when committing foul while doing alternate assistance defense before and after a team foul is applied (including free throw) upon defense, is given, includes a case where a player who provides a cause of alternate
15 personal foul when a co-player commits the alternate personal foul while attempting steal and snatch in a situation in which the number of defense players is smaller than that of offense players, and a free throw is given, upon defense (when a team foul is applied), is given, a case where an attempt error
20 player, who belongs to the number of defense players, which is smaller than that of attack players, and who commits foul (shooting action) that allows a free throw while attempting steal and the snatch upon defense, and allows a free throw losing point, is given, and a case where a player who receives
25 help from a co-player since he is broken through during defense

upon defense, when the co-player gets a losing point (including free throw by foul) to the person in question offense is given.

(17) The team defense shrinkage fostering error subtraction item includes a case where a player who commits
5 personal foul before and after a team foul is applied, upon defense, and gives lead to the team foul, is given, i.e., a player who commits intentional, loose ball foul, etc., and thus allows one free throw, a player who commits flagrant foul (two free throws, one score option, two free throws, maintaining of
10 the attack right, walkout of a foul player, etc.), a player who commits foul against an offense player who is slow in before the offense player is slow in a line out, and thus allows a free throw, is given, a player who commits away foul (the rule on which the victory is not changed due to foul) before two
15 minutes of 4 and extension period end (one free throw and attack time reset), a player who commits elbow foul (two free throw and play time reset) in a state where an attack team holds a ball within 2 minutes of the fourth quarter or extension period end, upon defense, and a player who commits
20 punching foul (two free throws, a team foul, walk-out, one game suspension), a case where a player who commits intentional foul (giving two free throws, in goal in (possession acquisition) or one free throw 1, re-provision of attack right of a ball) within 2 minutes before the fourth quarter or extension period
25 end upon defense (a state where a team foul is applied if not

having relation to team foul) is given, a player who commits foul related to a point in a situation in which an attack time of an opponent team remains a little (within five seconds), and thus allows a losing point (including free throw), a player who
5 commits foul to a co-player offense of a shooter when an offense player throws shooting and makes the ball alive, and thus provides a free throw, a player who provides a cause (error player) of foul while attempting defense miss player, steal and snatch when a co-player commits foul while doing
10 alternate defense as the player misses an offense player, and thus commits alternate personal foul in a situation in which the number of defense players is smaller than that of attack players, a attempt error player who makes mistakes while attempting steal and snatch, and does a free throw losing point
15 when a co-player, who belongs to the number of defense players, which is smaller than that of offense players, commits foul (shooting action) that allows a free throw, a player who commits foul under shooting action of an offense player, making the shooting failed, but allows all goal in a free throw, thus
20 losing a point, a layer who commits foul under a shooting action of an offense player, making the shooting failed, but assigns the results of a losing point and a non-losing point in a situation in which a free throw is allowed, and a player who commits a meaningless foul when an opponent team goes this way
25 and that without finding a way out of an attack, and the like,

are given.

(18) The mentality control ability lack error subtraction item includes a case where a player who commits ungentlemanly foul upon defense is given, a case where a player who commits technical foul, intentional foul, etc. upon defense (allowing one free throw), is given, a case where a player who commits flagrant foul (two free throws, one score option, two free throws, maintaining of the attack right, walkout of a foul player, etc.) is given, a case where a player who commits elbow foul (two free throw and play time reset) in a state where an attack team holds a ball within 2 minutes of the fourth quarter or extension period end, upon defense, is given, a case where a player who commits punching foul (two free throws, a team foul, walk-out, one game suspension) upon defense (a dead ball and game proceeding situation), is given, a case where a player who commits intentional foul (giving two free throws, in goal in (possession acquisition) or one free throw 1, re-provision of attack right of a ball) within 2 minutes before the fourth quarter or extension period end upon defense (a state where a team foul is applied if not having relation to team foul) is given.

(19) The opponent teamwork consolidation chance providing error subtraction item includes a case where a player who commits 3 second violation upon defense, gives one free throw, and resets an attack time is given, a case where a player who

commits alternate personal foul exclusion, personal foul, double foul, technical foul, intentional foul, flagrant, punching, or personal (having no relation to a ball), away or elbow foul before slow in within two minutes of the fourth
5 quarter or extension period end (a state where team foul is applied even without having relation to a team foul), upon defense, and providing an attack time reset (24 seconds) to an opponent team, is given, a case where a player who commits kicking violation in a situation in which the remaining attack
10 time of an offense team is within five seconds upon defense, and thus provides a re-attack time is given, a case where a player who commits foul, in a situation in which an attack time of an offense player exceeds 20 seconds (the remaining time is within four seconds) before and after a team foul is applied
15 upon defense, and thus provides an re-attack time, is given, a case where a player commits foul while doing alternate defense since missing an offense player, upon defense, (an attack time reset), is given, a case where a defense miss player is given, a case where a player who provides a cause (error player) of
20 foul when a co-player commits alternate personal foul while attempting steal and snatch upon defense (before a team foul is applied) in a situation in which the number of defense players is smaller than that of attack players, is given, and a player who commits a meaningless foul when an opponent team goes this
25 way and that without finding a way out of an attack (before a

team foul is applied), upon defense, are given.

(20) The teamwork collapse curse providing error subtraction item includes a case where a player who is broken through by an offense player to allow shooting comparable to
5 under-goal or field shoot, upon defense, but does not follow a shooting action, is given, a case where a player who commits flagrant foul (two free throws, one score option, two free throws, maintaining of the attack right, walkout of a foul player, etc.) is given, a case where a player who commits elbow
10 foul (two free throw and play time reset) in a state where an attack team holds a ball within 2 minutes of the fourth quarter or extension period end, upon defense, is given, a case where a player who commits punching foul (two free throws, a team foul, walk-out, one game suspension) upon defense (a dead ball and
15 game proceeding situation), is given, a case where a player who commits intentional foul (giving two free throws, in goal in (possession acquisition) or one free throw 1, re-provision of attack right of a ball) within 2 minutes before the fourth quarter or extension period end upon defense (a state where a
20 team foul is applied if not having relation to team foul) is given, a case where a player who commits personal foul (having no relation to a ball) or away foul (the rule on which the victory is not changed due to foul) before a ball slows in in a situation in which an attach team holds a ball within 2
25 minutes of the fourth quarter or extension period end (one free

throw, an attack time reset), upon defense, is given, a case where a player who is broken through by an offense player to allow shooting comparable to under-goal or field shoot, upon defense, but does not take a minimum measure, is given, a case

5 where a player who provides a cause of foul, free throw and a losing point when a co-player commits alternate personal foul while attempting steal and snatch upon defense (before a team foul is applied) in a situation in which the number of defense players is smaller than that of attack players, is given, a

10 case where a player who makes mistakes while attempting steal and snatch upon defense and does a free throw losing point when a co-player, who is included in the number of defense players, which is smaller than that of attack players, commits foul (shooting action) that allows a free throw, is given, a case

15 where all players who allow a losing point while playing a switch mark among defense players, upon defense, when defending a pattern play by block and screen of an opponent, are given, a case where a player who mistakenly puts a ball in own basket while playing a seesaw game with an offense player around the

20 under-goal, upon defense, thus losing a point, is given, a case where a player who commits foul against an offense player who is slow in before and when the offense player is slow in a line out upon defense (before a team foul is applied), and thus allows a free throw, is given, a case where a player who

25 commits violation (line cross, goaltending, basket interfere,

etc.) in a situation in which a free throw of an opponent team is no goal upon defense, resulting in a re-free throw, is given, a case where a player who takes away a ball before the ball touches a ring or a back board in an in-play situation immediately after a free throw attempt of an opponent player, 5 upon defense, thus allowing a losing point, and also makes error when one additional free throw is given, is given, a case where a player who commits foul under the shooting action of an offense player upon defense (before and after a team foul is applied), thus making the shooting failed, but allows a free 10 throw to be all goal, thus losing points, is given, a case where a player who commits foul under a shooting action of an offense player (before a team foul is applied) upon defense, making the shooting failed, but allows a free throw, thus 15 giving both the results of a losing point and a non-losing point is given, a case where a player who commits a meaningless foul when an opponent team goes this way and that without finding a way out of an attack (before and after a team foul is applied), upon defense, is given, a case where a player who 20 commits foul, in a situation in which an attack time of an offense player exceeds 20 seconds (the remaining time is within five seconds) (before and after a team foul is applied) during play, and thus provides an re-attack time and a free throw, is given, a case where a player (error player) who provides a 25 cause of a losing point when a co-player commits alternate

personal foul and provides a free throw, while attempting steal and snatch when a team foul is applied upon defense in a situation in which the number of defense players is smaller than that of attack players, is given, a case where a player
5 who receives help from a co-player since he is broken through during defense upon defense before and after a team foul is applied, when the co-player gets a losing point (including free throw by foul) to the person in question offense is given, a case where a player who commits foul related to a point in a
10 situation in which an attack time of an opponent team remains a little (within five seconds) upon defense (before a team foul is applied), and thus allows a losing point (including free throw) is given, a case where a player who commits foul while defending an offense player in a swift attack (necessary to
15 preclude rhythm) of an opponent team before a team foul is applied, upon defense, loses a point, and also allows a free throw, is given, a case where a player who commits violation (basket interfere, goaltending, etc.) in a basket no goal situation of an offense player, upon defense, and thus provides
20 an own team with a losing point, is given, and a case where a player who does not participate in rebound or does not give minimum help to a team although it is not a swift attack situation upon defense rebound, a player who does not box out an offense player around him and causes a co-player to have his
25 possession taken out by the offense player, and a player who

lose possession due to heedlessness in a situation in which the layer can sufficiently secure rebound, are given.

(21) The possible losing point increase-causing (assignment) error subtraction item includes a case where a
5 player who commits a meaningless foul when an opponent team goes this way and that without finding a way out of an attack (before a team foul is applied), upon defense, is given, a case where a player who commits foul, in a situation in which an attack time of an offense player exceeds 20 seconds (the
10 remaining time is within four seconds) before and after a team foul is applied upon defense, and thus provides an re-attack time, is given, a case where a player who commits foul such as intentional, technical, elbow, punching and flagrant within two minutes of the fourth quarter or extension period end, upon
15 defense, is given, a case where a player who does not participate in rebound or does not give minimum help to a team although it is not a swift attack situation upon defense rebound, a player who does not box out an offense player around him and causes a co-player to have his possession taken out by
20 the offense player, and a player who lose possession due to heedlessness in a situation in which the layer can sufficiently secure rebound, are given, and a case where a player commits 3 second violation, and allows one free throw and an attack time reset, upon defense, is given.

25 (22) The game flow interception ability lack error

subtraction item includes a case where a player who commits foul while defending (2 or more) offense players in a swift attack (necessary to preclude rhythm) of an opponent team before a team foul is applied, upon defense, loses a point, and
5 also allows a free throw, is given, and a case where a player who commits foul that loses a point and also allows a free throw, while defending an offense player who is arbitrarily assigned to the person in question in a defense situation for an 1:1 swift attack (need to preclude rhythm) of an opponent
10 team, upon defense before a team foul is applied, is given.

(23) The team-pattern confusion assignment error subtraction item includes a case where a player who commits flagrant foul (two free throws, one score option, two free throws, maintaining of the attack right, walkout of a foul
15 player, etc.), upon defense, is given.

(24) The team member formation difficulty providing error subtraction item includes a case where a player who commits punching foul (two free throws, a team foul, walkout, one game suspension <depending upon a decision of Financial Committee>)
20 upon defense (dead ball and game proceeding situation) is given.

Next, in step S11, the game situation factor unit within the manager server sets the game situation factors of 1277 items for the item of the attack addition game factor, the item of the attack subtraction game factor, the item of the defense
25 addition game factor and the item of the defense subtraction

game factor.

The game situation factors for the item of the attack addition game factor, the item of the attack subtraction game factor, the item of the defense addition the game factor, and
 5 the item of the defense subtraction game factor are respectively classified into 7 items, 13 items, 21 items, 5 items, 9 items, 12 items and 4 items. The items will be described.

the 7 items are contribution in disadvantageous point
 10 (over -7) situation, contribution in advantageous point (over +7) situation, contribution in disadvantageous point seesaw approach (-6 ~ -4) situation, contribution in advantageous point seesaw approach (+6 ~ +4) situation, contribution in disadvantageous point seesaw (-1 ~ -3) situation, contribution
 15 in advantageous point seesaw (+1 ~ +3) situation and contribution in tie situation;

the 13 items are contribution in disadvantageous point (over -7) situation, contribution in advantageous (over +7) situation, disadvantageous point seesaw approach (-6 ~ -4) entry
 20 possible contribution in an advantageous point situation (over -7), disadvantageous point situation (over +7) entry-possible contribution in a disadvantageous point seesaw approach situation (+6 ~ +4), contribution within disadvantageous point seesaw approach (-6 ~ -4) in disadvantageous point seesaw
 25 approach (-6 ~ -4) situation, possible contribution within

disadvantageous point seesaw approach (+6 ~ +4) in a seesaw approach (+6 ~ +4) situation, disadvantageous point seesaw situation (-1 ~ -3) entry-possible contribution in an advantageous point seesaw approach situation (-6 ~ -4),
 5 disadvantageous point seesaw approach situation (+6 ~ +4) entry-possible contribution in a disadvantageous point seesaw situation (+1 ~ +3), possible contribution within a disadvantageous point seesaw situation (-1 ~ -3) in a disadvantageous point seesaw situation (-1 ~ -3), possible
 10 contribution within a disadvantageous point seesaw situation (+1 ~ +3) in a disadvantageous point seesaw situation (+1 ~ +3), tie situation entry-possible contribution in a disadvantageous point seesaw situation (-1 ~ -3), disadvantageous point seesaw situation (+1 ~ +3) entry-possible contribution in a tie
 15 situation, and disadvantageous point seesaw situation (+1 ~ +3) entry-possible contribution in a disadvantageous point seesaw situation (-1 ~ -3);

the 21 items are Point in disadvantageous point (over -7) situation, Point in advantageous (over +7) situation, a
 20 disadvantageous point seesaw approach (-6 ~ -4) entry point in an advantageous point situation (over -7), a disadvantageous point situation (over +7) point in a disadvantageous point seesaw approach (+6 ~ +4) situation, a point within a disadvantageous point seesaw approach (-6 ~ -4) in an
 25 advantageous point seesaw approach (-6 ~ -4) situation, a point

within a disadvantageous point seesaw approach (+6 ~ +4) in a disadvantageous point seesaw approach (+6 ~ +4) situation, a disadvantageous point seesaw situation (-1 ~ -3) point in a disadvantageous point seesaw approach (-6 ~ -4) situation, a
5 disadvantageous point seesaw approach situation (+6 ~ +4) point in a disadvantageous point seesaw situation (+1 ~ +3), a point within a disadvantageous point seesaw situation (-1 ~ -3) in a disadvantageous point seesaw situation (-1 ~ -3), a point within a disadvantageous point seesaw situation (+1 ~ +3) in a
10 disadvantageous point seesaw situation (+1 ~ +3), a tie situation point in a disadvantageous point seesaw situation (-1 ~ -3), a disadvantageous point seesaw situation (+1 ~ +3) point in a tie situation, a disadvantageous point seesaw situation (+1 ~ +3) point in a disadvantageous point seesaw situation (-1
15 ~ -3), a tie point simultaneously with attack time end or quarter end in a disadvantageous seesaw situation (-1 ~ -3), a reverse point simultaneously with attack time end or quarter end in a disadvantageous seesaw situation (-1 ~ -3), a reverse point simultaneously with attack time end or quarter end in tie
20 situation, a tie point in last attack with game end time being left several seconds in a disadvantageous seesaw situation (-1 ~ -3), a reverse point in last attack with game end time being left several seconds in a tie situation, a tie point simultaneously with game end buzzer in a disadvantageous seesaw
25 situation (-1 ~ -3), a reverse point simultaneously with game

end buzzer in a disadvantageous seesaw situation (-1 ~ -3) and a reverse point simultaneously with game end buzzer in tie situation;

the 5 items are one foul record, a second foul record, a
5 third foul record, a fourth foul record and a walkout foul record;

the 9 items are walk-out in extra game and one or more participation stops, walk-out after five minutes in the fourth quarter, walk-out before five minutes in the fourth quarter,
10 walk-out after five minutes in the third quarter, walk-out before five minutes in the third quarter, walk-out after five minutes in the second quarter, walk-out before five minutes in the second quarter, walk-out after five minutes in the first quarter, and walk-out before five minutes in the first quarter;

15 the 12 items are shooting error in a disadvantageous point (over -7) situation, shooting error in an advantageous point (over +7) situation, shooting error in a disadvantageous point seesaw approach (-6 ~ -4) situation, shooting error in a disadvantageous point seesaw approach (+6 ~ +4) situation,
20 shooting error in a disadvantageous point seesaw situation (-1 ~ -3), shooting error in a disadvantageous point seesaw situation (+1 ~ +3), shooting error in a tie situation, tie shooting error in the last attack with several seconds being left before a game ends in a disadvantageous point seesaw
25 situation (-1 ~ -3), reverse point shooting error in the last

attack with several seconds being left before a game ends in a tie situation, tie shooting error simultaneously with a game end buzzer in a disadvantageous seesaw situation (-1 ~ -3), reverse point shooting error simultaneously with a game end buzzer in a disadvantageous seesaw situation (-1 ~ -3), and reverse point shooting error simultaneously with a game end buzzer in a tie situation; and

the 4 items are an advantageous and disadvantageous situation (over ± 7 points), an advantageous and disadvantageous seesaw approach situation ($\pm 6 \sim \pm 4$ points), an advantageous and disadvantageous seesaw situation ($\pm 3 \sim \pm 1$ points), and contribution in a tie situation.

In step S12, the median setting unit within the manager server sets the median for the game factors and the game situation factors under the principle of the game situation for the attack addition game factors, the attack subtraction game factors, the defense addition game factors and the defense subtraction game factors. In order to facilitate understanding of the median and the weight for the game factors and the game situation factors, Table 1 and Table 2 are presented.

Table 1. Symbol table depending upon each game factor and game situation factor

	Game Factor	Game Situation Factor
Attack addition factor	A1, A2, A3,	A1_1, A1_2,

Attack subtraction factor	B1, B2, B3,	B1_1, B1_2,
Defense addition factor	C1, C2, C3,	C1_1, C1_2,
Defense subtraction factor	D1, D2, D3,	D1_1, D1_1,

Table 2. Utilization example of symbol tables depending upon each game factor and game situation factor

Game Factor	Game Situation Factor
A1: Full shooting capture (driving) ability	A1_1: Contribution in disadvantageous point (over -7) situation
	A1_2: Contribution in advantageous point (over +7) situation
	A1_3: Contribution in disadvantageous point seesaw approach (-6 ~ -4) situation
	A1_4: Contribution in advantageous point seesaw approach (+6 ~ +4) situation
	A1_5: Contribution in advantageous point seesaw (-1 ~ -3) situation
	A1_6: Contribution in advantageous point seesaw (+1 ~ +3) situation
	A1_7 : Contribution in tie situation

5 Furthermore, the median for each of the game factors and each of the game situation factors under the principle of the game situation for the attack addition game factors, the attack subtraction game factors, the defense addition game factors, and the defense subtraction game factors is as follows in below

10 Table 3 - Table 6

Table 3. Median under situation principle for attack addition factors

Game factor	Game Situation factor						
A1	A1_1	A1_2	A1_3	A1_4	A1_5	A1_6	A1_7

80	5.00	4.00	5.00	4.00	8.00	8.00	9.50
A2	A2_1	A2_2	A2_3	A2_4	A2_5	A2_6	A2_7
70	6.00	4.00	5.00	5.00	8.00	8.00	9.00
A3	A3_1	A3_2	A3_3	A3_4	A3_5	A3_6	A3_7
70	5.00	5.00	7.00	5.00	8.00	8.00	10.00
A4	A4_1	A4_2	A4_3	A4_4	A4_5	A4_6	A4_7
70	5.00	5.00	6.00	4.00	5.50	4.00	7.00
	A4_8	A4_9	A4_10	A4_11	A4_12	A4_13	
	5.50	8.00	7.00	8.00	9.00	9.50	
A5	A5_1	A5_2	A5_3	A5_4	A5_5	A5_6	A5_7
60	4.00	4.00	5.00	5.00	8.00	8.00	9.00
A6	A6_1	A6_2	A6_3	A6_4	A6_5	A6_6	A6_7
80	4.00	3.00	5.00	4.00	5.00	4.00	6.00
	A6_8	A6_9	A6_10	A6_11	A6_12	A6_13	
	5.00	7.00	6.00	8.00	9.00	9.50	
A7	A7_1	A7_2	A7_3	A7_4	A7_5	A7_6	A7_7
70	3.00	3.00	5.00	4.00	5.50	5.00	4.00
	A7_8	A7_9	A7_10	A7_11	A7_12	A7_13	
	4.00	6.00	6.00	7.00	9.00	10.00	
A8	A8_1	A8_2	A8_3	A8_4	A8_5	A8_6	A8_7
70	3.00	2.00	4.00	4.00	6.00	6.00	6.00
	A8_8	A8_9	A8_10	A8_11	A8_12	A8_13	
	5.00	6.00	7.00	9.00	8.00	9.50	
A9	A9_1	A9_2	A9_3	A9_4	A9_5	A9_6	A9_7
50	3.00	4.00	5.00	6.00	8.00	7.00	9.00
A10	A10_1	A10_2	A10_3	A10_4	A10_5	A10_6	A10_7
80	3.00	3.00	4.00	3.00	4.00	3.50	5.00
	A10_8	A10_9	A10_10	A10_11	A10_12	A10_13	
	5.00	5.50	6.00	8.00	8.50	9.50	
A11	A11_1	A11_2	A11_3	A11_4	A11_5	A11_6	A11_7
70	3.00	3.00	3.00	4.00	4.00	4.00	5.00
	A11_8	A11_9	A11_10	A11_11	A11_12	A11_13	
	5.00	7.00	7.00	8.50	9.00	10.00	
A12	A12_1	A12_2	A12_3	A12_4	A12_5	A12_6	A12_7
70	4.00	2.00	4.00	3.00	5.00	5.00	5.00
	A12_8	A12_9	A12_10	A12_11	A12_12	A12_13	
	6.50	6.00	6.00	7.00	9.00	9.00	
A13	A13_1	A13_2	A13_3	A13_4	A13_5	A13_6	A13_7

70	2.00	3.00	4.00	5.00	8.00	7.00	9.00
A14	A14_1	A14_2	A14_3	A14_4	A14_5	A14_6	A14_7
60	3.00	3.00	4.00	4.00	5.00	4.00	6.00
	A14_8	A14_9	A14_10	A14_11	A14_12	A14_13	
	5.00	7.00	7.00	9.00	9.00	9.00	
A15	A15_1	A15_2	A15_3	A15_4	A15_5	A15_6	A15_7
40	2.00	2.00	7.00	6.00	9.00	8.00	10.00
A16	A16_1	A16_2	A16_3	A16_4	A16_5	A16_6	A16_7
40	2.00	2.00	5.00	5.00	7.00	8.00	9.00
A17	A17_1	A17_2	A17_3	A17_4	A17_5	A17_6	A17_7
38	2.00	3.00	6.00	5.00	9.50	8.00	9.00
A18	A18_1	A18_2	A18_3	A18_4	A18_5	A18_6	A18_7
70	4.00	3.00	6.00	5.00	9.00	8.00	9.00
A19	A19_1	A19_2	A19_3	A19_4	A19_5	A19_6	A19_7
50	3.00	3.00	4.00	3.50	4.00	4.00	5.00
	A19_8	A19_9	A19_10	A19_11	A19_12	A19_13	
	5.00	8.00	7.00	9.00	9.00	10.00	
A20	A20_1	A20_2	A20_3	A20_4	A20_5	A20_6	A20_7
70	3.00	3.00	5.00	5.00	6.00	5.00	7.00
	A20_8	A20_9	A20_10	A20_11	A20_12	A20_13	
	6.00	8.00	8.00	9.00	9.50	10.00	
A21	A21_1	A21_2	A21_3	A21_4	A21_5	A21_6	A21_7
40	3.00	4.00	6.00	6.00	7.00	9.00	9.00
A22	A22_1	A22_2	A22_3	A22_4	A22_5	A22_6	A22_7
90	2.00	2.00	4.00	4.00	4.50	4.00	5.50
	A22_8	A22_9	A22_10	A22_11	A22_12	A22_13	A22_14
	5.00	6.00	7.00	7.00	7.00	7.00	8.00
	A22_15	A22_16	A22_17	A22_18	A22_19	A22_20	A22_21
	9.00	8.00	8.00	8.50	9.00	10.00	10.00
A23	A23_1	A23_2	A23_3	A23_4	A23_5	A23_6	A23_7
80	2.00	2.00	3.00	3.00	4.00	4.00	5.00
	A23_8	A23_9	A23_10	A23_11	A23_12	A23_13	A23_14
	5.00	6.00	6.00	6.00	6.50	7.00	8.00
	A23_15	A23_16	A23_17	A23_18	A23_19	A23_20	A23_21
	8.00	8.00	9.00	9.00	9.00	9.50	10.00
A24	A24_1	A24_2	A24_3	A24_4	A24_5	A24_6	A24_7
80	3.00	4.00	4.50	5.00	5.00	5.00	6.00
	A24_8	A24_9	A24_10	A24_11	A24_12	A24_13	
	6.00	8.00	8.00	9.00	9.00	10.00	
A25	A25_1	A25_2	A25_3	A25_4	A25_5	A25_6	A25_7
50	4.00	2.00	6.00	5.00	9.50	9.00	9.00

A26	A26_1	A26_2	A26_3	A26_4	A26_5	A26_6	A26_7
60	2.00	2.50	6.00	6.00	8.00	7.00	10.00
A27	A27_1	A27_2	A27_3	A27_4	A27_5	A27_6	A27_7
50	2.50	4.00	5.00	5.50	6.00	6.50	6.25
	A27_8	A27_9	A27_10	A27_11	A27_12	A27_13	
	7.00	6.75	6.50	6.50	7.50	8.00	
A28	A28_1	A28_2	A28_3	A28_4	A28_5	A28_6	A28_7
80	3.00	4.00	4.00	4.00	5.00	5.00	6.00
	A28_8	A28_9	A28_10	A28_11	A28_12	A28_13	
	6.00	8.00	7.00	9.00	9.00	10.00	
A29	A29_1	A29_2	A29_3	A29_4	A29_5	A29_6	A29_7
60	3.00	3.00	4.00	3.00	5.00	5.00	5.00
	A29_8	A29_9	A29_10	A29_11	A29_12	A29_13	
	6.00	6.00	7.50	9.00	9.00	10.00	
A30	A30_1	A30_2	A30_3	A30_4	A30_5	A30_6	A30_7
88	2.00	2.00	4.00	3.00	5.00	5.00	5.00
	A30_8	A30_9	A30_10	A30_11	A30_12	A30_13	A30_14
	5.00	6.00	6.00	8.00	7.00	7.00	7.00
	A30_15	A30_16	A30_17	A30_18	A30_19	A30_20	A30_21
	7.50	7.50	8.50	9.00	9.00	10.00	10.00
A31	A31_1	A31_2	A31_3	A31_4	A31_5	A31_6	A31_7
50	4.00	2.00	6.00	6.00	9.00	8.00	10.00
A32	A32_1	A32_2	A32_3	A32_4	A32_5	A32_6	A32_7
89	2.50	2.00	3.50	3.00	4.00	4.00	7.75
	A32_8	A32_9	A32_10	A32_11	A32_12	A32_13	
	7.00	8.25	8.00	9.00	8.00	10.00	
A33	A33_1	A33_2	A33_3	A33_4	A33_5	A33_6	A33_7
50	3.00	3.00	4.00	4.00	5.00	4.00	6.50
	A33_8	A33_9	A33_10	A33_11	A33_12	A33_13	
	5.00	7.50	6.00	9.00	9.00	10.00	
A34	A34_1	A34_2	A34_3	A34_4	A34_5	A34_6	A34_7
40	3.00	4.00	6.00	6.00	8.00	8.00	10.00
A35	A35_1	A35_2	A35_3	A35_4	A35_5	A35_6	A35_7
100	2.00	2.00	3.00	3.00	4.00	4.00	4.50
	A35_8	A35_9	A35_10	A35_11	A35_12	A35_13	A35_14
	5.00	6.00	6.00	7.00	6.50	7.00	8.00
	A35_15	A35_16	A35_17	A35_18	A35_19	A35_20	A35_21
	8.00	8.00	9.00	9.00	9.50	10.00	9.50
A36	A36_1	A36_2	A36_3	A36_4	A36_5	A36_6	A36_7
60	3.00	4.00	7.00	6.00	10.00	8.00	9.80
A37	A37_1	A37_2	A37_3	A37_4	A37_5	A37_6	A37_7
60	2.00	3.00	6.00	6.00	8.80	8.00	10.00
A38	A38_1	A38_2	A38_3	A38_4	A38_5		

45	2.00	5.00	7.00	9.00	10.00		
A39	A39_1	A39_2	A39_3	A39_4	A39_5		
40	2.00	4.00	6.00	9.00	10.00		
A40	A40_1	A40_2	A40_3	A40_4	A40_5	A40_6	A40_7
65	9.50	4.00	3.75	5.00	5.00	6.00	7.00
	A40_8	A40_9					
	8.00	9.00					
A41	A41_1	A41_2	A41_3	A41_4	A41_5	A41_6	A41_7
58	10.00	4.50	4.80	5.00	5.00	6.00	7.00
	A41_8	A41_9					
	9.00	9.00					

Table 4. Median under situation principle for attack subtraction factors

Game factor	Game Situation factor						
B1	B1_1	B1_2	B1_3	B1_4	B1_5	B1_6	B1_7
80.00	2.00	3.00	5.00	4.00	5.00	5.00	6.00
	B1_8	B1_9	B1_10	B1_11	B1_12	B1_13	
	6.00	7.00	8.00	9.50	9.00	10.00	
B2	B2_1	B2_2	B2_3	B2_4	B2_5	B2_6	B2_7
90.00	3.00	2.00	5.00	5.00	9.00	8.00	10.00
B3	B3_1	B3_2	B3_3	B3_4	B3_5	B3_6	B3_7
60.00	2.00	2.00	5.00	5.00	9.00	9.00	9.50
B4	B4_1	B4_2	B4_3	B4_4	B4_5	B4_6	B4_7
60.00	2.00	2.00	5.00	5.00	9.00	9.00	9.00
B5	B5_1	B5_2	B5_3	B5_4	B5_5	B5_6	B5_7
81.00	2.00	2.00	4.00	4.00	5.00	5.00	7.00
	B5_8	B5_9	B5_10	B5_11	B5_12	B5_13	
	7.00	8.00	8.00	9.00	9.00	10.00	
B6	B6_1	B6_2	B6_3	B6_4	B6_5	B6_6	B6_7
60.00	3.00	3.00	7.00	6.00	9.50	8.00	10.00
B7	B7_1	B7_2	B7_3	B7_4	B7_5	B7_6	B7_7
50.00	3.00	3.00	6.00	6.00	9.50	8.00	10.00
B8	B8_1	B8_2	B8_3	B8_4	B8_5	B8_6	B8_7
80.00	2.00	2.00	3.00	3.00	4.00	4.00	5.00

	B8_8	B8_9	B8_10	B8_11	B8_12	B8_13	
	5.00	7.50	7.00	9.50	8.00	10.00	
B9	B9_1	B9_2	B9_3	B9_4	B9_5	B9_6	B9_7
50.00	2.50	2.00	5.50	5.00	9.50	8.00	10.00
B10	B10_1	B10_2	B10_3	B10_4	B10_5	B10_6	B10_7
80.00	2.00	2.00	3.00	3.00	4.00	4.00	6.00
	B10_8	B10_9	B10_10	B10_11	B10_12	B10_13	
	6.50	8.00	8.00	9.00	9.00	10.00	
B11	B11_1	B11_2	B11_3	B11_4	B11_5	B11_6	B11_7
80.00	2.00	1.00	3.00	4.00	5.00	5.00	6.00
	B11_8	B11_9	B11_10	B11_11	B11_12	B11_13	
	7.00	8.50	8.00	9.50	9.00	10.00	
B12	B12_1	B12_2	B12_3	B12_4	B12_5	B12_6	B12_7
50.00	2.00	2.00	4.00	3.50	5.00	5.00	6.00
	B12_8	B12_9	B12_10	B12_11	B12_12	B12_13	
	6.00	7.50	7.50	9.00	9.00	10.00	
B13	B13_1	B13_2	B13_3	B13_4	B13_5	B13_6	B13_7
95.00	2.00	2.00	4.50	5.00	6.00	6.50	8.00
	B13_8	B13_9	B13_10	B13_11	B13_12		
	8.00	9.00	9.00	9.50	9.00		
B14	B14_1	B14_2	B14_3	B14_4	B14_5	B14_6	B14_7
85.00	2.00	2.00	5.00	5.00	7.00	7.00	9.00
	B14_8	B14_9	B14_10	B14_11	B14_12		
	8.00	8.50	9.00	9.50	9.00		
B15	B15_1	B15_2	B15_3	B15_4	B15_5	B15_6	B15_7
90.00	2.00	2.00	5.00	5.00	6.00	5.50	8.00
	B15_8	B15_9	B15_10	B15_11	B15_12		
	8.00	9.00	9.00	9.50	10.00		
B16	B16_1	B16_2	B16_3	B16_4	B16_5	B16_6	B16_7
60.00	2.00	3.00	5.00	5.00	6.50	7.00	9.00
	B16_8	B16_9	B16_10	B16_11	B16_12		
	8.50	8.00	9.00	9.50	10.00		
B17	B17_1	B17_2	B17_3	B17_4	B17_5	B17_6	B17_7
84.00	3.00	3.00	6.00	6.00	9.50	8.00	9.00
B18	B18_1	B18_2	B18_3	B18_4	B18_5	B18_6	B18_7
75.00	2.00	2.00	4.00	3.50	5.00	5.00	7.00

	B18_8	B18_9	B18_10	B18_11	B18_12	B18_13	
	7.00	8.00	8.00	9.50	9.00	10.00	
B19	B19_1	B19_2	B19_3	B19_4	B19_5	B19_6	B19_7
80.00	2.00	2.00	5.00	4.00	5.00	5.00	7.00
	B19_8	B19_9	B19_10	B19_11	B19_12	B19_13	
	7.00	8.00	8.00	9.50	9.00	10.00	
B20	B20_1	B20_2	B20_3	B20_4	B20_5	B20_6	B20_7
80.00	2.00	2.00	4.00	4.00	5.00	5.00	6.50
	B20_8	B20_9	B20_10	B20_11	B20_12	B20_13	
	7.00	8.00	8.00	9.50	9.50	10.00	
B21	B21_1	B21_2	B21_3	B21_4	B21_5	B21_6	B21_7
70.00	2.00	2.00	4.50	4.00	5.50	5.00	6.50
	B21_8	B21_9	B21_10	B21_11	B21_12	B21_13	
	7.00	8.00	8.00	9.50	9.00	10.00	
B22	B22_1	B22_2	B22_3	B22_4	B22_5	B22_6	B22_7
45.00	3.00	3.00	5.00	5.00	9.50	8.00	10.00
B23	B23_1	B23_2	B23_3	B23_4	B23_5	B23_6	B23_7
55.00	3.00	3.00	5.00	5.00	9.50	8.00	10.00
B24	B24_1	B24_2	B24_3	B24_4	B24_5	B24_6	B24_7
50.00	2.50	2.00	6.50	6.00	9.50	9.00	10.00
B25	B25_1	B25_2	B25_3	B25_4	B25_5	B25_6	B25_7
70.00	2.00	2.00	6.00	6.00	9.50	8.00	10.00
B26	B26_1	B26_2	B26_3	B26_4	B26_5	B26_6	B26_7
40.00	3.00	4.00	5.50	6.00	9.00	8.00	10.00
B27	B27_1	B27_2	B27_3	B27_4	B27_5	B27_6	B27_7
40.00	2.00	2.00	5.50	5.00	9.50	8.00	10.00
B28	B28_1	B28_2	B28_3	B28_4	B28_5	B28_6	B28_7
80.00	2.00	2.00	5.00	5.00	6.00	6.00	7.00
	B28_8	B28_9	B28_10	B28_11	B28_12	B28_13	
	6.00	8.00	8.00	9.50	9.00	10.00	
B29	B29_1	B29_2	B29_3	B29_4	B29_5	B29_6	B29_7
70.00	2.00	2.00	3.00	4.00	5.00	5.00	7.00
	B29_8	B29_9	B29_10	B29_11	B29_12	B29_13	
	6.00	8.00	7.00	9.50	9.00	10.00	

B30	B30_1	B30_2	B30_3	B30_4	B30_5		
50.00	1.50	2.75	5.00	8.00	10.00		
B31	B31_1	B31_2	B31_3	B31_4	B31_5		
55.00	1.50	2.00	5.00	8.00	10.00		
B32	B32_1	B32_2	B32_3	B32_4	B32_5		
70.00	1.50	4.00	6.00	8.00	10.00		
B33	B33_1	B33_2	B33_3	B33_4	B33_5	B33_6	B33_7
80.00	8.00	7.00	6.00	6.00	6.00	6.00	8.00
	B33_8	B33_9					
	9.00	10.00					
B34	B34_1	B34_2	B34_3	B34_4	B34_5	B34_6	B34_7
70.00	8.00	6.00	6.00	6.00	6.00	6.00	6.00
	B34_8	B34_9					
	8.00	10.00					

Table 5. Median under situation principle for defense
addition factors

Game factor	Game Situation factor						
C1	C1_1	C1_2	C1_3	C1_4	C1_5	C1_6	C1_7
90.00	3.00	3.00	6.00	7.00	9.00	9.50	10.00
C2	C2_1	C2_2	C2_3	C2_4	C2_5	C2_6	C2_7
85.00	4.00	4.00	6.00	6.50	8.00	10.00	9.00
C3	C3_1	C3_2	C3_3	C3_4	C3_5	C3_6	C3_7
80.00	4.00	4.00	6.00	6.00	8.00	9.50	9.00
C4	C4_1	C4_2	C4_3	C4_4	C4_5	C4_6	C4_7
70.00	2.00	2.00	6.00	6.00	9.00	9.50	10.00
C5	C5_1	C5_2	C5_3	C5_4	C5_5	C5_6	C5_7
50.00	2.00	2.00	2.50	3.00	4.00	4.00	4.50
	C5_8	C5_9	C5_10	C5_11	C5_12	C5_13	C5_14
	4.00	5.50	5.00	7.00	6.00	7.50	7.50
	C5_15	C5_16	C5_17	C5_18	C5_19	C5_20	C5_21
	7.50	8.50	8.50	9.00	8.50	9.50	10.00
C6	C6_1	C6_2	C6_3	C6_4	C6_5	C6_6	C6_7
85.00	2.00	2.00	3.00	3.00	4.00	4.00	4.00
	C6_8	C6_9	C6_10	C6_11	C6_12	C6_13	C6_14
	5.00	6.50	6.50	6.00	6.00	7.50	6.50

	C6_15	C6_16	C6_17	C6_18	C6_19	C6_20	C6_21
	6.00	7.00	8.00	9.00	9.00	9.50	10.00
C7	C7_1	C7_2	C7_3	C7_4	C7_5	C7_6	C7_7
60.00	10.00	9.00	8.00	6.00	6.00	5.00	4.00
	C7_8	C7_9					
	3.00	3.00					
C8	C8_1	C8_2	C8_3	C8_4	C8_5	C8_6	C8_7
60.00	2.00	2.00	4.00	4.00	7.00	8.00	10.00
C9	C9_1	C9_2	C9_3	C9_4	C9_5	C9_6	C9_7
80.00	2.00	2.00	3.00	3.00	4.00	6.00	6.00
	C9_8	C9_9	C9_10	C9_11	C9_12	C9_13	
	7.00	8.00	8.00	9.00	9.50	10.00	
C10	C10_1	C10_2	C10_3	C10_4			
50.00	3.00	6.00	8.00	10.00			
C11	C11_1	C11_2	C11_3	C11_4			
60.00	2.00	5.00	8.00	9.00			
C12	C12_1	C12_2	C12_3	C12_4	C12_5	C12_6	C12_7
50.00	3.00	3.00	3.50	4.00	5.00	6.00	5.00
	C12_8	C12_9	C12_10	C12_11	C12_12	C12_13	
	5.50	8.50	7.00	9.50	9.00	9.00	
C13	C13_1	C13_2	C13_3	C13_4			
70.00	3.00	6.00	10.00	9.00			
C14	C14_1	C14_2	C14_3	C14_4	C14_5	C14_6	C14_7
50.00	2.00	2.00	5.00	6.00	8.00	9.50	8.00
C15	C15_1	C15_2	C15_3	C15_4	C15_5	C15_6	C15_7
80.00	2.00	2.00	3.50	4.00	4.50	5.00	7.50
	C15_8	C15_9	C15_10	C15_11	C15_12	C15_13	
	7.00	8.50	8.00	9.00	9.00	9.00	
C16	C16_1	C16_2	C16_3	C16_4			
70.00	3.00	6.00	9.00	10.00			
C17	C17_1	C17_2	C17_3	C17_4	C17_5	C17_6	C17_7
90.00	4.00	4.00	6.00	6.00	8.00	9.50	9.00
C18	C18_1	C18_2	C18_3	C18_4	C18_5	C18_6	C18_7
50.00	2.00	2.00	4.00	5.00	8.00	9.00	10.00
C19	C19_1	C19_2	C19_3	C19_4	C19_5	C19_6	C19_7
5.00	2.00	3.00	5.00	6.00	7.00	9.00	9.00
C20	C20_1	C20_2	C20_3	C20_4	C20_5	C20_6	C20_7

85.00	2.00	2.00	3.50	4.00	5.00	5.00	6.00
	C20_8	C20_9	C20_10	C20_11	C20_12	C20_13	
	7.00	8.50	8.00	9.50	9.00	9.00	
C21	C21_1	C21_2	C21_3	C21_4	C21_5	C21_6	C21_7
90.00	2.00	2.00	3.50	4.00	5.00	5.00	6.50
	C21_8	C21_9	C21_10	C21_11	C21_12	C21_13	
	6.00	8.50	8.00	10.00	8.00	8.50	
C22	C22_1	C22_2	C22_3	C22_4	C22_5	C22_6	C22_7
90.00	2.00	2.00	3.50	3.50	4.00	4.00	7.00
	C22_8	C22_9	C22_10	C22_11	C22_12	C22_13	
	6.00	8.50	7.50	9.00	9.00	10.00	
C23	C23_1	C23_2	C23_3	C23_4			
50.00	4.00	5.00	8.00	10.00			
C24	C24_1	C24_2	C24_3	C24_4	C24_5	C24_6	C24_7
80.00	2.00	2.00	4.00	4.00	5.00	5.00	6.50
	C24_8	C24_9	C24_10	C24_11	C24_12	C24_13	
	6.00	8.00	7.50	9.00	9.00	9.00	
C25	C25_1	C25_2	C25_3	C25_4	C25_5	C25_6	C25_7
95.00	8.00	5.00	4.00	5.00	5.00	5.50	6.00
	C25_8	C25_9	C25_10	C25_11	C25_12	C25_13	
	7.50	6.00	6.00	8.00	9.00	8.00	
C26	C26_1	C26_2	C26_3	C26_4			
50.00	3.00	5.00	9.00	9.00			
C27	C27_1	C27_2	C27_3	C27_4	C27_5		
70.00	2.00	4.00	5.00	9.00	10.00		
C28	C28_1	C28_2	C28_3	C28_4	C28_5		
70.00	2.00	4.00	6.00	9.00	10.00		
C29	C29_1	C29_2	C29_3	C29_4	C29_5	C29_6	C29_7
70.00	8.00	7.00	5.00	5.00	6.00	6.00	5.00
	C29_8	C29_9					
	8.00	10.00					
C30	C30_1	C30_2	C30_3	C30_4	C30_5	C30_6	C30_7
80.00	7.00	6.50	5.50	6.00	6.00	7.00	8.00
	C30_8	C30_9					
	9.00	10.00					

Table 6. Median under situation principle for defense subtraction factors

Game factor	Game Situation factor						
C1	C1_1	C1_2	C1_3	C1_4	C1_5	C1_6	C1_7
90.00	3.00	3.00	6.00	7.00	9.00	9.50	10.00
C2	C2_1	C2_2	C2_3	C2_4	C2_5	C2_6	C2_7
85.00	4.00	4.00	6.00	6.50	8.00	10.00	9.00
C3	C3_1	C3_2	C3_3	C3_4	C3_5	C3_6	C3_7
80.00	4.00	4.00	6.00	6.00	8.00	9.50	9.00
C4	C4_1	C4_2	C4_3	C4_4	C4_5	C4_6	C4_7
70.00	2.00	2.00	6.00	6.00	9.00	9.50	10.00
C5	C5_1	C5_2	C5_3	C5_4	C5_5	C5_6	C5_7
50.00	2.00	2.00	2.50	3.00	4.00	4.00	4.50
	C5_8	C5_9	C5_10	C5_11	C5_12	C5_13	C5_14
	4.00	5.50	5.00	7.00	6.00	7.50	7.50
	C5_15	C5_16	C5_17	C5_18	C5_19	C5_20	C5_21
	7.50	8.50	8.50	9.00	8.50	9.50	10.00
C6	C6_1	C6_2	C6_3	C6_4	C6_5	C6_6	C6_7
85.00	2.00	2.00	3.00	3.00	4.00	4.00	4.00
	C6_8	C6_9	C6_10	C6_11	C6_12	C6_13	C6_14
	5.00	6.50	6.50	6.00	6.00	7.50	6.50
	C6_15	C6_16	C6_17	C6_18	C6_19	C6_20	C6_21
	6.00	7.00	8.00	9.00	9.00	9.50	10.00
C7	C7_1	C7_2	C7_3	C7_4	C7_5	C7_6	C7_7
60.00	10.00	9.00	8.00	6.00	6.00	5.00	4.00
	C7_8	C7_9					
	3.00	3.00					
C8	C8_1	C8_2	C8_3	C8_4	C8_5	C8_6	C8_7
60.00	2.00	2.00	4.00	4.00	7.00	8.00	10.00
C9	C9_1	C9_2	C9_3	C9_4	C9_5	C9_6	C9_7
80.00	2.00	2.00	3.00	3.00	4.00	6.00	6.00
	C9_8	C9_9	C9_10	C9_11	C9_12	C9_13	
	7.00	8.00	8.00	9.00	9.50	10.00	
C10	C10_1	C10_2	C10_3	C10_4			
50.00	3.00	6.00	8.00	10.00			
C11	C11_1	C11_2	C11_3	C11_4			
60.00	2.00	5.00	8.00	9.00			

C12	C12_1	C12_2	C12_3	C12_4	C12_5	C12_6	C12_7
50.00	3.00	3.00	3.50	4.00	5.00	6.00	5.00
	C12_8	C12_9	C12_10	C12_11	C12_12	C12_13	
	5.50	8.50	7.00	9.50	9.00	9.00	
C13	C13_1	C13_2	C13_3	C13_4			
70.00	3.00	6.00	10.00	9.00			
C14	C14_1	C14_2	C14_3	C14_4	C14_5	C14_6	C14_7
50.00	2.00	2.00	5.00	6.00	8.00	9.50	8.00
C15	C15_1	C15_2	C15_3	C15_4	C15_5	C15_6	C15_7
80.00	2.00	2.00	3.50	4.00	4.50	5.00	7.50
	C15_8	C15_9	C15_10	C15_11	C15_12	C15_13	
	7.00	8.50	8.00	9.00	9.00	9.00	
C16	C16_1	C16_2	C16_3	C16_4			
70.00	3.00	6.00	9.00	10.00			
C17	C17_1	C17_2	C17_3	C17_4	C17_5	C17_6	C17_7
90.00	4.00	4.00	6.00	6.00	8.00	9.50	9.00
C18	C18_1	C18_2	C18_3	C18_4	C18_5	C18_6	C18_7
50.00	2.00	2.00	4.00	5.00	8.00	9.00	10.00
C19	C19_1	C19_2	C19_3	C19_4	C19_5	C19_6	C19_7
5.00	2.00	3.00	5.00	6.00	7.00	9.00	9.00
C20	C20_1	C20_2	C20_3	C20_4	C20_5	C20_6	C20_7
85.00	2.00	2.00	3.50	4.00	5.00	5.00	6.00
	C20_8	C20_9	C20_10	C20_11	C20_12	C20_13	
	7.00	8.50	8.00	9.50	9.00	9.00	
C21	C21_1	C21_2	C21_3	C21_4	C21_5	C21_6	C21_7
90.00	2.00	2.00	3.50	4.00	5.00	5.00	6.50
	C21_8	C21_9	C21_10	C21_11	C21_12	C21_13	
	6.00	8.50	8.00	10.00	8.00	8.50	
C22	C22_1	C22_2	C22_3	C22_4	C22_5	C22_6	C22_7
90.00	2.00	2.00	3.50	3.50	4.00	4.00	7.00
	C22_8	C22_9	C22_10	C22_11	C22_12	C22_13	
	6.00	8.50	7.50	9.00	9.00	10.00	
C23	C23_1	C23_2	C23_3	C23_4			
50.00	4.00	5.00	8.00	10.00			
C24	C24_1	C24_2	C24_3	C24_4	C24_5	C24_6	C24_7
80.00	2.00	2.00	4.00	4.00	5.00	5.00	6.50
	C24_8	C24_9	C24_10	C24_11	C24_12	C24_13	

	6.00	8.00	7.50	9.00	9.00	9.00	
C25	C25_1	C25_2	C25_3	C25_4	C25_5	C25_6	C25_7
95.00	8.00	5.00	4.00	5.00	5.00	5.50	6.00
	C25_8	C25_9	C25_10	C25_11	C25_12	C25_13	
	7.50	6.00	6.00	8.00	9.00	8.00	
C26	C26_1	C26_2	C26_3	C26_4			
50.00	3.00	5.00	9.00	9.00			
C27	C27_1	C27_2	C27_3	C27_4	C27_5		
70.00	2.00	4.00	5.00	9.00	10.00		
C28	C28_1	C28_2	C28_3	C28_4	C28_5		
70.00	2.00	4.00	6.00	9.00	10.00		
C29	C29_1	C29_2	C29_3	C29_4	C29_5	C29_6	C29_7
70.00	8.00	7.00	5.00	5.00	6.00	6.00	5.00
	C29_8	C29_9					
	8.00	10.00					
C30	C30_1	C30_2	C30_3	C30_4	C30_5	C30_6	C30_7
80.00	7.00	6.50	5.50	6.00	6.00	7.00	8.00
	C30_8	C30_9					
	9.00	10.00					

In step S13, the weight setting unit within the manager server sets weights for the respective game situation factors under the game situation principle for the attack addition game factors, the attack subtraction game factors, the defense addition game factors and the defense subtraction game factors.

The weights for the game factors and the game situation factors under the game situation principle for the attack addition game factors, the attack subtraction game factors, the defense addition game factors and the defense subtraction game factors are as follows in below Table 7 - Table 10.

Table 7. Weight under situation principle for attack
addition factors

Game factor	Game Situation factor						
A1	A1_1	A1_2	A1_3	A1_4	A1_5	A1_6	A1_7
	1.00	0.80	1.00	0.80	1.60	1.60	1.90
A2	A2_1	A2_2	A2_3	A2_4	A2_5	A2_6	A2_7
	1.05	0.70	0.88	0.88	1.40	1.40	1.58
A3	A3_1	A3_2	A3_3	A3_4	A3_5	A3_6	A3_7
	0.88	0.88	1.23	0.88	1.40	1.40	1.75
A4	A4_1	A4_2	A4_3	A4_4	A4_5	A4_6	A4_7
	0.88	0.88	1.05	0.70	0.96	0.70	1.23
	A4_8	A4_9	A4_10	A4_11	A4_12	A4_13	
	0.96	1.40	1.23	1.40	1.58	1.66	
A5	A5_1	A5_2	A5_3	A5_4	A5_5	A5_6	A5_7
	0.60	0.60	0.75	0.75	1.20	1.20	1.35
A6	A6_1	A6_2	A6_3	A6_4	A6_5	A6_6	A6_7
	0.80	0.60	1.00	0.80	1.00	0.80	1.20
	A6_8	A6_9	A6_10	A6_11	A6_12	A6_13	
	1.00	1.40	1.20	1.60	1.80	1.90	
A7	A7_1	A7_2	A7_3	A7_4	A7_5	A7_6	A7_7
	0.53	0.53	0.88	0.70	0.96	0.88	0.70
	A7_8	A7_9	A7_10	A7_11	A7_12	A7_13	
	0.70	1.05	1.05	1.23	1.58	1.75	
A8	A8_1	A8_2	A8_3	A8_4	A8_5	A8_6	A8_7
	0.53	0.35	0.70	0.70	1.05	1.05	1.05
	A8_8	A8_9	A8_10	A8_11	A8_12	A8_13	
	0.88	1.05	1.23	1.58	1.40	1.66	
A9	A9_1	A9_2	A9_3	A9_4	A9_5	A9_6	A9_7
	0.38	0.50	0.63	0.75	1.00	0.88	1.13
A10	A10_1	A10_2	A10_3	A10_4	A10_5	A10_6	A10_7
	0.60	0.60	0.80	0.60	0.80	0.70	1.00
	A10_8	A10_9	A10_10	A10_11	A10_12	A10_13	
	1.00	1.10	1.20	1.60	1.70	1.90	
A11	A11_1	A11_2	A11_3	A11_4	A11_5	A11_6	A11_7
	0.53	0.53	0.53	0.70	0.70	0.70	0.88
	A11_8	A11_9	A11_10	A11_11	A11_12	A11_13	

	0.88	1.23	1.23	1.49	1.58	1.75	
A12	A12_1	A12_2	A12_3	A12_4	A12_5	A12_6	A12_7
	0.70	0.35	0.70	0.53	0.88	0.88	0.88
	A12_8	A12_9	A12_10	A12_11	A12_12	A12_13	
	1.14	1.05	1.05	1.23	1.58	1.58	
A13	A13_1	A13_2	A13_3	A13_4	A13_5	A13_6	A13_7
	0.35	0.53	0.70	0.88	1.40	1.23	1.58
A14	A14_1	A14_2	A14_3	A14_4	A14_5	A14_6	A14_7
	0.45	0.45	0.60	0.60	0.75	0.60	0.90
	A14_8	A14_9	A14_10	A14_11	A14_12	A14_13	
	0.75	1.05	1.05	1.35	1.35	1.35	
A15	A15_1	A15_2	A15_3	A15_4	A15_5	A15_6	A15_7
	0.20	0.20	0.70	0.60	0.90	0.80	1.00
A16	A16_1	A16_2	A16_3	A16_4	A16_5	A16_6	A16_7
	0.20	0.20	0.50	0.50	0.70	0.80	0.90
A17	A17_1	A17_2	A17_3	A17_4	A17_5	A17_6	A17_7
	0.19	0.29	0.57	0.48	0.90	0.76	0.86
A18	A18_1	A18_2	A18_3	A18_4	A18_5	A18_6	A18_7
	0.70	0.53	1.05	0.88	1.58	1.40	1.58
A19	A19_1	A19_2	A19_3	A19_4	A19_5	A19_6	A19_7
	0.38	0.38	0.50	0.44	0.50	0.50	0.63
	A19_8	A19_9	A19_10	A19_11	A19_12	A19_13	
	0.63	1.00	0.88	1.13	1.13	1.25	
A20	A20_1	A20_2	A20_3	A20_4	A20_5	A20_6	A20_7
	0.53	0.53	0.88	0.88	1.05	0.88	1.23
	A20_8	A20_9	A20_10	A20_11	A20_12	A20_13	
	1.05	1.40	1.40	1.58	1.66	1.75	
A21	A21_1	A21_2	A21_3	A21_4	A21_5	A21_6	A21_7
	0.30	0.40	0.60	0.60	0.70	0.90	0.90
A22	A22_1	A22_2	A22_3	A22_4	A22_5	A22_6	A22_7
	0.45	0.45	0.90	0.90	1.01	0.90	1.24
	A22_8	A22_9	A22_10	A22_11	A22_12	A22_13	A22_14
	1.13	1.35	1.58	1.58	1.58	1.58	1.80
	A22_15	A22_16	A22_17	A22_18	A22_19	A22_20	A22_21
	2.03	1.80	1.80	1.91	2.03	2.25	2.25
A23	A23_1	A23_2	A23_3	A23_4	A23_5	A23_6	A23_7
	0.40	0.40	0.60	0.60	0.80	0.80	1.00
	A23_8	A23_9	A23_10	A23_11	A23_12	A23_13	A23_14

	1.00	1.20	1.20	1.20	1.30	1.40	1.60
	A23_15	A23_16	A23_17	A23_18	A23_19	A23_20	A23_21
	1.60	1.60	1.80	1.80	1.80	1.90	2.00
A24	A24_1	A24_2	A24_3	A24_4	A24_5	A24_6	A24_7
	0.60	0.80	0.90	1.00	1.00	1.00	1.20
	A24_8	A24_9	A24_10	A24_11	A24_12	A24_13	
	1.20	1.60	1.60	1.80	1.80	2.00	
A25	A25_1	A25_2	A25_3	A25_4	A25_5	A25_6	A25_7
	0.50	0.25	0.75	0.63	1.19	1.13	1.13
A26	A26_1	A26_2	A26_3	A26_4	A26_5	A26_6	A26_7
	0.30	0.38	0.90	0.90	1.20	1.05	6.00
A27	A27_1	A27_2	A27_3	A27_4	A27_5	A27_6	A27_7
	0.31	0.50	0.63	0.69	0.75	0.81	0.78
	A27_8	A27_9	A27_10	A27_11	A27_12	A27_13	
	0.88	0.84	0.81	0.81	0.94	1.00	
A28	A28_1	A28_2	A28_3	A28_4	A28_5	A28_6	A28_7
	0.60	0.80	0.80	0.80	1.00	1.00	1.20
	A28_8	A28_9	A28_10	A28_11	A28_12	A28_13	
	1.20	1.60	1.40	1.80	1.80	2.00	
A29	A29_1	A29_2	A29_3	A29_4	A29_5	A29_6	A29_7
	0.45	0.45	0.60	0.45	0.75	0.75	3.00
	A29_8	A29_9	A29_10	A29_11	A29_12	A29_13	
	0.90	0.90	1.13	1.35	1.35	1.50	
A30	A30_1	A30_2	A30_3	A30_4	A30_5	A30_6	A30_7
	0.44	0.44	0.88	0.66	1.10	1.10	1.10
	A30_8	A30_9	A30_10	A30_11	A30_12	A30_13	A30_14
	1.10	1.32	1.32	1.76	1.54	1.54	1.54
	A30_15	A30_16	A30_17	A30_18	A30_19	A30_20	A30_21
	1.65	1.65	1.87	1.98	1.98	2.20	2.20
A31	A31_1	A31_2	A31_3	A31_4	A31_5	A31_6	A31_7
	0.50	0.25	0.75	0.75	1.13	1.00	1.25
A32	A32_1	A32_2	A32_3	A32_4	A32_5	A32_6	A32_7
	0.56	0.45	0.78	0.67	0.89	0.89	1.72
	A32_8	A32_9	A32_10	A32_11	A32_12	A32_13	
	1.56	1.84	1.78	2.00	1.78	2.23	
A33	A33_1	A33_2	A33_3	A33_4	A33_5	A33_6	A33_7

	0.38	0.38	0.50	0.50	0.63	0.50	0.81
	A33_8	A33_9	A33_10	A33_11	A33_12	A33_13	
	0.63	0.94	0.75	1.13	1.13	1.25	
A34	A34_1	A34_2	A34_3	A34_4	A34_5	A34_6	A34_7
	0.30	0.40	0.60	0.60	0.80	0.80	1.00
A35	A35_1	A35_2	A35_3	A35_4	A35_5	A35_6	A35_7
	0.50	0.50	0.75	0.75	1.00	1.00	1.13
	A35_8	A35_9	A35_10	A35_11	A35_12	A35_13	A35_14
	1.25	1.50	1.50	1.75	1.63	1.75	2.00
	A35_15	A35_16	A35_17	A35_18	A35_19	A35_20	A35_21
	2.00	2.00	2.25	2.25	2.38	2.50	2.38
A36	A36_1	A36_2	A36_3	A36_4	A36_5	A36_6	A36_7
	0.45	0.60	1.05	0.90	1.50	1.20	1.47
A37	A37_1	A37_2	A37_3	A37_4	A37_5	A37_6	A37_7
	0.30	0.45	0.90	0.90	1.32	1.20	1.50
A38	A38_1	A38_2	A38_3	A38_4	A38_5		
	0.23	0.56	0.79	1.01	1.13		
A39	A39_1	A39_2	A39_3	A39_4	A39_5		
	0.20	0.40	0.60	0.90	1.00		
A40	A40_1	A40_2	A40_3	A40_4	A40_5	A40_6	A40_7
	1.54	0.65	0.61	0.81	0.81	0.98	1.14
	A40_8	A40_9					
	1.30	1.46					
A41	A41_1	A41_2	A41_3	A41_4	A41_5	A41_6	A41_7
	1.45	0.65	0.70	0.73	0.73	0.87	1.02
	A41_8	A41_9					
	1.31	1.31					

Table 8. Weight under situation principle for attack subtraction factors

Game factor				Game Situation factor			
B1	B1_1	B1_2	B1_3	B1_4	B1_5	B1_6	B1_7
	0.40	0.60	1.00	0.80	1.00	1.00	1.20
	B1_8	B1_9	B1_10	B1_11	B1_12	B1_13	

	1.20	1.40	1.60	1.90	1.80	2.00	
B2	B2_1	B2_2	B2_3	B2_4	B2_5	B2_6	B2_7
	0.68	0.45	1.13	1.13	2.03	1.80	2.25
B3	B3_1	B3_2	B3_3	B3_4	B3_5	B3_6	B3_7
	0.30	0.30	0.75	0.75	1.35	1.35	1.43
B4	B4_1	B4_2	B4_3	B4_4	B4_5	B4_6	B4_7
	0.30	0.30	0.75	0.75	1.35	1.35	1.35
B5	B5_1	B5_2	B5_3	B5_4	B5_5	B5_6	B5_7
	0.41	0.41	0.81	0.81	1.01	1.01	1.42
	B5_8	B5_9	B5_10	B5_11	B5_12	B5_13	
	1.42	1.62	1.62	1.82	1.82	2.03	
B6	B6_1	B6_2	B6_3	B6_4	B6_5	B6_6	B6_7
	0.45	0.45	1.05	0.90	1.43	1.20	1.50
B7	B7_1	B7_2	B7_3	B7_4	B7_5	B7_6	B7_7
	0.38	0.38	0.75	0.75	1.19	1.00	1.25
B8	B8_1	B8_2	B8_3	B8_4	B8_5	B8_6	B8_7
	0.40	0.40	0.60	0.60	0.80	0.80	1.00
	B8_8	B8_9	B8_10	B8_11	B8_12	B8_13	
	1.00	1.50	1.40	1.90	1.60	2.00	
B9	B9_1	B9_2	B9_3	B9_4	B9_5	B9_6	B9_7
	0.31	0.25	0.69	0.63	1.19	1.00	1.25
B10	B10_1	B10_2	B10_3	B10_4	B10_5	B10_6	B10_7
	0.40	0.40	0.60	0.60	0.80	0.80	1.20
	B10_8	B10_9	B10_10	B10_11	B10_12	B10_13	
	1.30	1.60	1.60	1.80	1.80	2.00	
B11	B11_1	B11_2	B11_3	B11_4	B11_5	B11_6	B11_7
	0.40	0.20	0.60	0.80	1.00	1.00	1.20
	B11_8	B11_9	B11_10	B11_11	B11_12	B11_13	
	1.40	1.70	1.60	1.90	1.80	2.00	
B12	B12_1	B12_2	B12_3	B12_4	B12_5	B12_6	B12_7
	0.25	0.25	0.50	0.44	0.63	0.63	0.75
	B12_8	B12_9	B12_10	B12_11	B12_12	B12_13	
	0.75	0.94	0.94	1.13	1.13	1.25	
B13	B13_1	B13_2	B13_3	B13_4	B13_5	B13_6	B13_7
	0.48	0.48	1.07	1.19	1.43	1.54	1.90
	B13_8	B13_9	B13_10	B13_11	B13_12		
	1.90	2.14	2.14	2.26	2.14		
B14	B14_1	B14_2	B14_3	B14_4	B14_5	B14_6	B14_7

	0.43	0.43	1.06	1.06	1.49	1.49	1.91
	B14_8	B14_9	B14_10	B14_11	B14_12		
	1.70	1.81	1.91	2.02	1.91		
B15	B15_1	B15_2	B15_3	B15_4	B15_5	B15_6	B15_7
	0.45	0.45	1.13	1.13	1.35	1.24	1.80
	B15_8	B15_9	B15_10	B15_11	B15_12		
	1.80	2.03	2.03	2.14	2.25		
B16	B16_1	B16_2	B16_3	B16_4	B16_5	B16_6	B16_7
	0.30	0.45	0.75	0.75	0.98	1.05	1.35
	B16_8	B16_9	B16_10	B16_11	B16_12		
	1.28	1.20	1.35	1.43	1.50		
B17	B17_1	B17_2	B17_3	B17_4	B17_5	B17_6	B17_7
	0.63	0.63	1.26	1.26	2.00	1.68	1.89
B18	B18_1	B18_2	B18_3	B18_4	B18_5	B18_6	B18_7
	0.38	0.38	0.75	0.66	0.94	0.94	1.31
	B18_8	B18_9	B18_10	B18_11	B18_12	B18_13	
	1.31	1.50	1.50	1.78	1.69	1.88	
B19	B19_1	B19_2	B19_3	B19_4	B19_5	B19_6	B19_7
	0.40	0.40	1.00	0.80	1.00	1.00	1.40
	B19_8	B19_9	B19_10	B19_11	B19_12	B19_13	
	1.40	1.60	1.60	1.90	1.80	2.00	
B20	B20_1	B20_2	B20_3	B20_4	B20_5	B20_6	B20_7
	0.40	0.40	0.80	0.80	1.00	1.00	1.30
	B20_8	B20_9	B20_10	B20_11	B20_12	B20_13	
	1.40	1.60	1.60	1.90	1.90	2.00	
B21	B21_1	B21_2	B21_3	B21_4	B21_5	B21_6	B21_7
	0.35	0.35	0.79	0.70	0.96	0.88	1.14
	B21_8	B21_9	B21_10	B21_11	B21_12	B21_13	
	1.23	1.40	1.40	1.66	1.58	1.75	
B22	B22_1	B22_2	B22_3	B22_4	B22_5	B22_6	B22_7
	0.34	0.34	0.56	0.56	1.07	0.90	1.13
B23	B23_1	B23_2	B23_3	B23_4	B23_5	B23_6	B23_7
	0.41	0.41	0.69	0.69	1.31	1.10	1.38
B24	B24_1	B24_2	B24_3	B24_4	B24_5	B24_6	B24_7
	0.31	0.25	0.81	0.75	1.19	1.13	1.25
B25	B25_1	B25_2	B25_3	B25_4	B25_5	B25_6	B25_7

	0.35	0.35	1.05	1.05	1.66	1.40	1.75
B26	B26_1	B26_2	B26_3	B26_4	B26_5	B26_6	B26_7
	0.30	0.40	0.55	0.60	0.90	0.80	1.00
B27	B27_1	B27_2	B27_3	B27_4	B27_5	B27_6	B27_7
	0.20	0.20	0.55	0.50	0.95	0.80	1.00
B28	B28_1	B28_2	B28_3	B28_4	B28_5	B28_6	B28_7
	0.40	0.40	1.00	1.00	1.20	1.20	1.40
	B28_8	B28_9	B28_10	B28_11	B28_12	B28_13	
	1.20	1.60	1.60	1.90	1.80	2.00	
B29	B29_1	B29_2	B29_3	B29_4	B29_5	B29_6	B29_7
	0.35	0.35	0.53	0.70	0.88	0.88	1.23
	B29_8	B29_9	B29_10	B29_11	B29_12	B29_13	
	1.05	1.40	1.23	1.66	1.58	1.75	
B30	B30_1	B30_2	B30_3	B30_4	B30_5		
	0.19	0.34	0.63	1.00	1.25		
B31	B31_1	B31_2	B31_3	B31_4	B31_5		
	0.21	0.28	0.69	1.10	1.38		
B32	B32_1	B32_2	B32_3	B32_4	B32_5		
	0.26	0.70	1.05	1.40	1.75		
B33	B33_1	B33_2	B33_3	B33_4	B33_5	B33_6	B33_7
	1.60	1.40	1.20	1.20	1.20	1.20	1.60
	B33_8	B33_9					
	1.80	2.00					
B34	B34_1	B34_2	B34_3	B34_4	B34_5	B34_6	B34_7
	1.40	1.05	1.05	1.05	1.05	1.05	1.05
	B34_8	B34_9					
	1.40	1.75					

Table 9. Weight under situation principle for defense addition factors

Game factor	Game Situation factor						
C1	C1_1	C1_2	C1_3	C1_4	C1_5	C1_6	C1_7
	0.68	0.68	1.35	1.58	2.03	2.14	2.25
C2	C2_1	C2_2	C2_3	C2_4	C2_5	C2_6	C2_7

	0.85	0.85	1.28	1.38	1.70	2.13	1.91
C3	C3_1	C3_2	C3_3	C3_4	C3_5	C3_6	C3_7
	0.80	0.80	1.20	1.20	1.60	1.90	1.80
C4	C4_1	C4_2	C4_3	C4_4	C4_5	C4_6	C4_7
	0.35	0.35	1.05	1.05	1.58	1.66	1.75
C5	C5_1	C5_2	C5_3	C5_4	C5_5	C5_6	C5_7
	0.25	0.25	0.31	0.38	0.50	0.50	0.56
	C5_8	C5_9	C5_10	C5_11	C5_12	C5_13	C5_14
	0.50	0.69	0.63	0.88	0.75	0.94	0.94
	C5_15	C5_16	C5_17	C5_18	C5_19	C5_20	C5_21
	0.94	1.06	1.06	1.13	1.06	1.19	1.25
C6	C6_1	C6_2	C6_3	C6_4	C6_5	C6_6	C6_7
	0.43	0.43	0.64	0.64	0.85	0.85	0.85
	C6_8	C6_9	C6_10	C6_11	C6_12	C6_13	C6_14
	1.06	1.38	1.38	1.28	1.28	1.59	1.38
	C6_15	C6_16	C6_17	C6_18	C6_19	C6_20	C6_21
	1.28	1.49	1.70	1.91	1.91	2.02	2.13
C7	C7_1	C7_2	C7_3	C7_4	C7_5	C7_6	C7_7
	1.50	1.35	1.20	0.90	0.90	0.75	0.60
	C7_8	C7_9					
	0.45	0.45					
C8	C8_1	C8_2	C8_3	C8_4	C8_5	C8_6	C8_7
	0.30	0.30	0.60	0.60	1.05	1.20	1.50
C9	C9_1	C9_2	C9_3	C9_4	C9_5	C9_6	C9_7
	0.40	0.40	0.60	0.60	0.80	1.20	1.20
	C9_8	C9_9	C9_10	C9_11	C9_12	C9_13	
	1.40	1.60	1.60	1.80	1.90	2.00	
C10	C10_1	C10_2	C10_3	C10_4			
	0.38	0.75	1.00	1.25			
C11	C11_1	C11_2	C11_3	C11_4			
	0.30	0.75	1.20	1.35			
C12	C12_1	C12_2	C12_3	C12_4	C12_5	C12_6	C12_7
	0.38	0.38	0.44	0.50	0.63	0.75	0.63
	C12_8	C12_9	C12_10	C12_11	C12_12	C12_13	
	0.69	1.06	0.88	1.19	1.13	1.13	
C13	C13_1	C13_2	C13_3	C13_4			
	0.53	1.05	1.75	1.58			

C14	C14_1	C14_2	C14_3	C14_4	C14_5	C14_6	C14_7
	0.25	0.25	0.63	0.75	1.00	1.19	1.00
C15	C15_1	C15_2	C15_3	C15_4	C15_5	C15_6	C15_7
	0.40	0.40	0.70	0.80	0.90	1.00	1.50
	C15_8	C15_9	C15_10	C15_11	C15_12	C15_13	
	1.40	1.70	1.60	1.80	1.80	1.80	
C16	C16_1	C16_2	C16_3	C16_4			
	0.53	1.05	1.58	1.75			
C17	C17_1	C17_2	C17_3	C17_4	C17_5	C17_6	C17_7
	0.90	0.90	1.35	1.35	1.80	2.14	2.03
C18	C18_1	C18_2	C18_3	C18_4	C18_5	C18_6	C18_7
	0.25	0.25	0.50	0.63	1.00	1.13	1.25
C19	C19_1	C19_2	C19_3	C19_4	C19_5	C19_6	C19_7
	0.25	0.38	0.63	0.75	0.88	1.13	1.13
C20	C20_1	C20_2	C20_3	C20_4	C20_5	C20_6	C20_7
	0.43	0.43	0.74	0.85	1.06	1.06	1.28
	C20_8	C20_9	C20_10	C20_11	C20_12	C20_13	
	1.49	1.81	1.70	2.02	1.91	1.91	
C21	C21_1	C21_2	C21_3	C21_4	C21_5	C21_6	C21_7
	0.45	0.45	0.79	0.90	1.13	1.13	1.46
	C21_8	C21_9	C21_10	C21_11	C21_12	C21_13	
	1.35	1.91	1.80	2.25	1.80	1.91	
C22	C22_1	C22_2	C22_3	C22_4	C22_5	C22_6	C22_7
	0.45	0.45	0.79	0.79	0.90	0.90	1.58
	C22_8	C22_9	C22_10	C22_11	C22_12	C22_13	
	1.35	1.91	1.69	2.03	2.03	2.25	
C23	C23_1	C23_2	C23_3	C23_4			
	0.50	0.63	1.00	1.25			
C24	C24_1	C24_2	C24_3	C24_4	C24_5	C24_6	C24_7
	0.40	0.40	0.80	0.80	1.00	1.00	1.30
	C24_8	C24_9	C24_10	C24_11	C24_12	C24_13	
	1.20	1.60	1.50	1.80	1.80	1.80	
C25	C25_1	C25_2	C25_3	C25_4	C25_5	C25_6	C25_7
	1.90	1.19	0.95	1.19	1.19	1.31	1.43
	C25_8	C25_9	C25_10	C25_11	C25_12	C25_13	

	1.78	1.43	1.43	1.90	2.14	1.90	
C26	C26_1	C26_2	C26_3	C26_4			
	0.38	0.63	1.13	1.13			
C27	C27_1	C27_2	C27_3	C27_4	C27_5		
	0.35	0.70	0.88	1.58	1.75		
C28	C28_1	C28_2	C28_3	C28_4	C28_5		
	0.35	0.70	1.05	1.58	1.75		
C29	C29_1	C29_2	C29_3	C29_4	C29_5	C29_6	C29_7
	1.40	1.23	0.88	0.88	1.05	1.05	0.88
	C29_8	C29_9					
	1.40	1.75					
C30	C30_1	C30_2	C30_3	C30_4	C30_5	C30_6	C30_7
	1.40	1.30	1.10	1.20	1.20	1.40	1.60
	C30_8	C30_9					
	1.80	2.00					

Table 10. Weight under situation principle for defense subtraction factors

Game factor	Game Situation factor						
D1	D1_1	D1_2	D1_3	D1_4	D1_5	D1_6	D1_7
	0.25	0.25	0.50	0.50	0.50	0.50	0.75
	D1_8	D1_9	D1_10	D1_11	D1_12	D1_13	D1_14
	0.56	0.63	0.88	0.88	0.75	0.75	0.75
	D1_15	D1_16	D1_17	D1_18	D1_19	D1_20	D1_21
	0.81	1.00	1.00	1.13	1.13	1.13	1.19
D2	D2_1	D2_2	D2_3	D2_4	D2_5	D2_6	D2_7
	0.45	0.45	0.68	0.68	0.90	0.90	1.13
	D2_8	D2_9	D2_10	D2_11	D2_12	D2_13	D2_14
	1.13	1.58	1.46	1.80	1.80	1.80	1.58
	D2_15	D2_16	D2_17	D2_18	D2_19	D2_20	D2_21
	1.58	1.80	1.91	2.14	2.03	2.14	2.14
D3	D3_1	D3_2	D3_3	D3_4	D3_5	D3_6	D3_7
	0.38	0.38	0.38	0.56	0.94	0.94	0.94
	D3_8	D3_9	D3_10	D3_11	D3_12	D3_13	
	1.13	1.50	1.31	1.88	1.69	1.78	
D4	D4_1	D4_2	D4_3	D4_4	D4_5	D4_6	D4_7

	0.45	0.45	0.67	0.67	0.89	0.89	1.00
	D4_8	D4_9	D4_10	D4_11	D4_12	D4_13	D4_14
	1.11	1.56	1.56	1.78	1.78	1.78	1.89
	D4_15	D4_16	D4_17	D4_18	D4_19	D4_20	D4_21
	1.89	2.00	2.00	2.11	2.00	2.11	2.23
D5	D5_1	D5_2	D5_3	D5_4	D5_5	D5_6	D5_7
	0.45	0.45	0.56	0.68	0.90	0.79	1.13
	D5_8	D5_9	D5_10	D5_11	D5_12	D5_13	D5_14
	1.13	1.58	1.35	1.69	1.80	1.80	1.80
	D5_15	D5_16	D5_17	D5_18	D5_19	D5_20	D5_21
	1.91	1.91	2.03	2.14	2.14	2.14	2.14
D6	D6_1	D6_2	D6_3	D6_4	D6_5	D6_6	D6_7
	0.38	0.38	0.56	0.56	0.94	0.94	1.13
	D6_8	D6_9	D6_10	D6_11	D6_12	D6_13	
	1.31	1.50	1.59	1.78	1.69	1.69	
D7	D7_1	D7_2	D7_3	D7_4	D7_5	D7_6	D7_7
	0.44	0.53	1.23	1.05	1.66	1.58	1.75
D8	D8_1	D8_2	D8_3	D8_4	D8_5	D8_6	D8_7
	0.30	0.30	0.60	0.50	0.95	0.80	1.00
D9	D9_1	D9_2	D9_3	D9_4	D9_5	D9_6	D9_7
	0.35	0.20	0.55	0.60	0.95	0.80	0.90
D10	D10_1	D10_2	D10_3	D10_4	D10_5	D10_6	D10_7
	0.60	0.40	1.40	1.20	1.90	1.60	2.00
D11	D11_1	D11_2	D11_3	D11_4	D11_5	D11_6	D11_7
	0.38	0.25	0.56	0.50	1.19	1.13	1.19
D12	D12_1	D12_2	D12_3	D12_4	D12_5	D12_6	D12_7
	0.60	0.40	1.20	1.20	2.00	1.80	2.00
D13	D13_1	D13_2	D13_3	D13_4	D13_5	D13_6	D13_7
	0.41	0.41	0.83	0.83	1.31	1.10	1.38
D14	D14_1	D14_2	D14_3	D14_4	D14_5	D14_6	D14_7
	0.75	0.56	1.13	1.13	1.78	1.50	1.88
D15	D15_1	D15_2	D15_3	D15_4	D15_5	D15_6	D15_7
	0.60	0.30	0.75	0.75	1.35	1.20	1.43
D16	D16_1	D16_2	D16_3	D16_4	D16_5	D16_6	D16_7
	0.35	0.53	0.88	0.88	1.40	1.40	1.75
D17	D17_1	D17_2	D17_3	D17_4	D17_5	D17_6	D17_7
	0.60	0.60	1.40	1.20	1.90	1.60	1.80
D18	D18_1	D18_2	D18_3	D18_4	D18_5	D18_6	D18_7

	0.60	0.40	0.80	0.90	1.20	1.00	1.40
	D18_8	D18_9	D18_10	D18_11	D18_12	D18_13	
	1.50	1.70	1.60	1.90	1.80	2.00	
D19	D19_1	D19_2	D19_3	D19_4	D19_5	D19_6	D19_7
	0.60	0.45	0.90	0.90	1.35	1.20	1.50
D20	D20_1	D20_2	D20_3	D20_4	D20_5		
	0.30	0.45	0.75	1.35	1.50		
D21	D21_1	D21_2	D21_3	D21_4	D21_5		
	0.40	0.99	1.19	1.58	1.98		
D22	D22_1	D22_2	D22_3	D22_4	D22_5		
	0.38	0.94	1.31	1.69	1.88		
D23	D23_1	D23_2	D23_3	D23_4	D23_5	D23_6	D23_7
	1.58	1.80	1.58	1.58	1.35	1.35	1.58
	D23_8	D23_9					
	2.03	2.03					
D24	D24_1	D24_2	D24_3	D24_4	D24_5	D24_6	D24_7
	1.80	1.58	1.58	1.58	1.35	1.58	1.80
	D24_8	D24_9					
	2.03	2.25					

Each of the game situation factor weight is expressed into (each game factor, median × each game situation factor median) ÷ 400. When evaluating a player based on the

5 multiplication of each game factor median and each game situation factor median, it is expected that the results become too high, feeling for the number is too low, and a feeling of refusal will stir up. Thus, as it is decided that the number is

10 divided by a given number as much as the degree that can reduce a feeling of refusal while increasing the degree of sensitivity for the number, the median multiplication is divided by 400. This is because considering that two points or three points are

increased when one shooting is successful, the value 1000 being the multiplication of the maximum median of the game factor 100 and the maximum median of the game situation factors 10 is divided by 400 to obtain an addition point or a subtraction point of about 2.5.

In step S14, the contribution degree calculation unit within the manager server calculates the degree of contribution by each player using addition factors (game situation factors \times corresponding weight) - subtraction factors (game situation factors \times corresponding weight) based on game situation factors, weight, etc.

Unlike an existing evaluation formula shown in Table 11 below, a newly developed athlete evaluation formula of the present invention is game contents to which game situation factors such as Table 12 are applied. Thus, after a game is finished, skills shown by an athlete can be recorded. For example, a case of a score record being one of game factors generated by a player Seo o Hoon will be taken as an example.

Table 11 Point evaluation in existing record table

	2F	3F	FT	PTS
Seo o Hoon	9	1	4	14

Table 12 Point evaluation of situation factor to which the present invention is applied

Situation	Point
Point in disadvantageous point (over -7) situation	8
Point in advantageous (over +7) situation	
Inferiority point seesaw approach (-6 ~ -4) entry point in disadvantageous point (over -7) situation	1
Predominant situation (over +7) point in advantageous seesaw approach point (+6 ~ +4) situation	
Inferiority seesaw approach (-6 ~ -4) point in disadvantageous seesaw approach point (-6 ~ -4) situation	1
Predominant seesaw approach (+6 ~ +4) point in advantageous seesaw approach point (+6 ~ +4) situation	
Inferiority seesaw situation (-1 ~ -3) point in disadvantageous seesaw approach point (-6 ~ -4) situation	
Predominant seesaw approach (+6 ~ +4) point in advantageous seesaw approach point (+1 ~ +3) situation	
Inferiority seesaw situation (-1 ~ -3) point in disadvantageous seesaw situation (-1 ~ -3)	
Predominant seesaw situation (+1 ~ +3) point in advantageous seesaw situation (+1 ~ +3)	1
Tie situation point in disadvantageous seesaw situation (-1 ~ -3)	
Predominant seesaw situation (+1 ~ +3) point in tie situation	1
Predominant seesaw situation (+1 ~ +3) point in disadvantageous seesaw situation (-1 ~ -3)	
Tie point simultaneously with attack time end or quarter end in disadvantageous seesaw situation (-1 ~ -3)	
Reverse point simultaneously with attack time end or quarter end in disadvantageous seesaw situation (-1 ~ -3)	
Reverse point simultaneously with attack time end or quarter end in tie situation	
Tie point in last attack with game end time being left several seconds in disadvantageous seesaw situation (-1 ~ -3)	
Reverse point in last attack with game end time being left several seconds in tie situation	
Tie point simultaneously with game end buzzer in disadvantageous seesaw situation (-1 ~ -3)	

Reverse point simultaneously with game end buzzer in disadvantageous seesaw situation (-1 ~ -3)	
Reverse point simultaneously with game end buzzer in tie situation	

5 ※The reason why the number of the frequency and the number of the existing frequency in the newly developed situation factors are different, i.e., 12 and 14, is that a situation when one obtained free throw is successful is considering not that the number of success of a free throw is input in a situation factor.

When comparing Table 11 and Table 12, the quantitative evaluation used in the existing evaluation formula only shows that Seo o Hoon is successful in 14 shooting such as one three-
 10 point shoot, nine two-point shoots and four free throws, and scores " $2F \times 2 + 3F \times 3 + FT \times 1 = 9 \times 2 + 1 \times 3 + 4 \times 1 = (25)$ ". Although Seo scored a very high point as absolute evaluation, the number of successful shoots by Seo o Hoon does not represent the situation in which Seo o Hoon is located and the flow of a game.
 15 However, the input under the game situation factors is qualitative evaluation, which well shows a game situation of a corresponding athlete (Seo o Hoon). Seo o Hoon was successful in eight shooting in the disadvantageous point (over -7) situation, and was also successful each shooting in the
 20 disadvantageous point seesaw approach (-6 ~ -4) entry situation in an advantageous point situation (over -7), a disadvantageous point seesaw approach (-6 ~ -4) in a disadvantageous point seesaw approach (-6 ~ -4) situation, a disadvantageous point seesaw situation (+1 ~ +3) in a disadvantageous point seesaw

situation (+1 ~ +3), and a disadvantageous point seesaw situation (+1 ~ +3) in a tie situation. The input of shooting number in which Seo o Hoon was successful under a situation factors can be interpreted as follows. The situation in which

5 Seo o Hoon is placed in a game showed that Seo o Hoon was usually a disadvantageous point state of over -7, and had about one advantageous point situation. However, considering that Cheongju SK to which Seo o Hoon belongs was defeated by a score of 97 to 91 in an out match with Wonju TG, and the advantageous

10 point situation of over -7 points is many, it can be estimated that Cheongju SK led a disadvantageous point situation in the first stage of 0 to 0, Wonju TG reversed as the game proceeds, and continues to lead the game. In fact, in this game, as estimated above, Cheongju SK was in the advantageous point

15 situation during the game and until the game in a situation that he maintained the disadvantageous point situation of +3 ~ +4 at the first stage of the game and was reversed. As such, the newly developed athlete evaluation formula through the game factors and the game situation factors according to the present

20 invention is configured to estimate the flow of a game through record of one athlete, and also can estimate whether which player gave what contribution, error in which situation through the result of play record input, unlike the quantitative record mode. Furthermore, based on this, although each player scored

25 the same point, the results are different even in the same

point since weights are already given on a situation basis.

Thus, a player who scored small points can be evaluated.

Further, Table 13 shows the results in which the skills of a player are classified according to attack addition, attack subtraction, defense addition and defense subtraction

Table 13 Results I using athlete evaluation formula of the present invention

Team	Player	Attack addition	Attack subtraction	Defense addition	Defense subtraction
Wonju TG	Jae o Cob	①491.72	②111.92	362.38	85.83
Wonju TG	Regi Tar o Zend	317.83	93.80	②452.40	④125.21
Wonju TG	Shin o Sung	302.25	49.14	③393.25	104.76
Wonju TG	Hea o Jae	315.49	72.72	④395.80	106.34
Cheongju SK	Jae o Jones	233.46	46.50	①470.38	③130.23
Cheongju SK	Seo o Hoon	③360.05	83.02	306.58	①190.64
Cheongju SK	Roderic Ha o Bal	②388.04	③111.91	148.10	106.42
Wonju TG	Yang o Min	158.98	37.72	198.30	81.41
Cheongju SK	Cho o Hyun	225.17	④105.02	176.20	79.30
Cheongju SK	Hwang o In	④336.93	①128.53	146.43	②145.15
Cheongju SK	Seock o Il	50.95	13.50	0.00	0.00
Wonju TG	Kim o Gi	38.75	19.54	20.70	38.08

A player who scored the greatest attack addition points is Jae o Cob, who scored 491.72. Next, Roderic Ha o Bal, Seo o Hoon and Hwang o In scored 388.04, 360.05 and 336.93, and showed a high attack ability. A player who scored the greatest defense addition point is Jae o Jones, who scored 470.38. Next,

Regi Tar o Zend, Hea o Jae and Shin o Sung scored 452.40, 395.80 and 393.25, respectively. On the contrary, a player who generated the largest errors in the attack subtraction point is Hwang o In 128.53 points, which shows the basic ability of attack. Next, Jae o Cob, Roderic Ha o Bal and Cho o Hyun input 111.92, 111.91 and 105.02, respectively. In defense subtraction, Seo o Hoon is a demerit mark of 190.64, which shows the results that do not help a team in the defense portion. Next, Hwang o In, Jae o Jones and Regi Tar o Zend showed the defense subtraction of 145.15, 130.23 and 125.21, respectively.

The results of the game contents that were shown by players in the game through Table 13 show that players who give lots of contribution to a team upon attack also generate lots of attack error, and players who give lots of contribution upon defense generates lots of defense error to a team. In the concrete, Jae o Cob had a high team contribution degree by scoring the first place point in attack addition, and generated lots of errors in proportion to attack by scoring a very high points in attack subtraction. On the contrary, the team contribution degree in defense addition is low compared to contribution to a team in attack addition. In defense subtraction, error is also low in defense since the width of activation in defense contribution is relatively low. Thus, Jae o Cob was evaluated as a player who had the most excellent activity in a target game. Roderic Ha o Bal scored the second

place point, which is high in the team contribution degree in attack addition, but relatively generated lots of error in attack subtraction, thus generating lots of subtraction point. Furthermore, what the degree of contribution to a team in defense addition is low but a relatively higher score in defense subtraction was evaluate as a player who does not assign contribution to a team in defense and has a significant disadvantage in defense. Resultantly, Roderic Ha o Bal showed a blind point of defense in a target research game, and contributed lots of error compared to the number of attempts in attack. Furthermore, Roderic Ha o Bal showed that the number of addition or subtraction in defense is small. This showed that Roderic Ha o Bal is lack in positive participation in defense and did attack-oriented play. Hwang o In scored a high point from the viewpoint that contributed a lot a team in attack addition, but generated scores that assign lots of error in attack subtraction and defense subtraction. Thus he was evaluated to be low in the ranking. Hwang o In played an active part compared to other guards by participating in attack rather than defense, but generated lots of error in attack and lots of error in defense. As such, it is possible to evaluate and interpret the ability of players in various manners through attack addition, attack subtraction, defense addition and defense subtraction, which are obtained by the players.

Players can be compared based on scores and the type of

balance, which are generated by the players in attack addition, attack subtraction, defense addition and defense subtraction. This analysis corresponds to a comparison analysis of the type in which players act in a game. Thereafter, Table 14 shows that
 5 a game type shown by a player is arranged in a two-dimensional space using a multi-dimensional scale method.

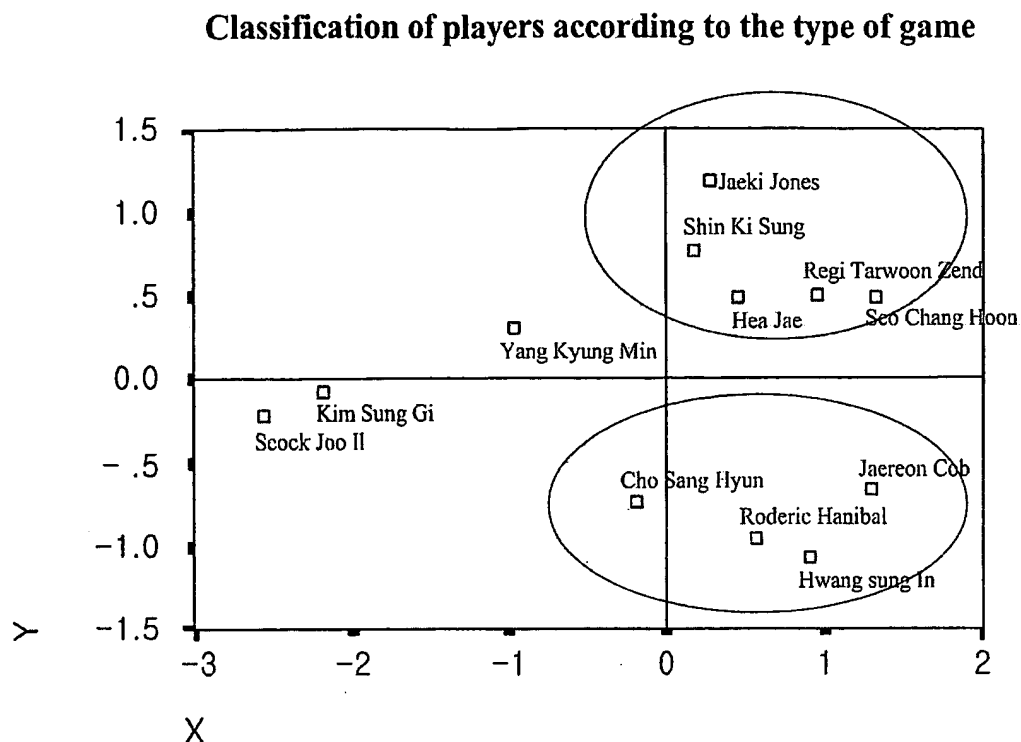
Table 14. Type of game using multi-dimensional scale method

Player	X coordinate	Y coordinate	Player	X coordinate	Y coordinate
Jae o Cob	1.2945	-0.6694	Roderic Ha o Bal	0.5676	-0.9624
Regi Tar o Zend	0.9448	0.4905	Yang o Min	-0.965	0.3091
Shin o Sung	0.162	0.7712	Cho o Hyun	-0.1945	-0.7385
Hea o Jae	0.4551	0.4792	Hwang o In	0.8955	-1.0635
Jae o Jones	0.269	1.1991	Seock o Il	-2.5534	-0.2245
Seo o Hoon	1.3216	0.4824	Kim o Gi	-2.1975	-0.0731

10

The above coordinates standardize addition or subtraction points of factors, and then use Euclidean Distance Scale. The addition or subtraction points being the great factors employed a ration scale as a continuous type parameter. For this, it
 15 used two-dimensional spatial coordinates. In characteristics in attack and defense, a player who contributed a lot in a team upon attack relatively made lots of error in a team attack. A player who contributed a lot in a team upon defense also made lots of error in defense.

[Fig. 1] Classification of players according to the type of game



As shown in [Fig. 1], among players who attended a target research game, Jae o Cob, Cho o Hyun, Roderic Ha o Bal and Roderic Ha o Bal are grouped into one group A, and Shin o Sung, Seo o Hoon, Hea o Jae and Regi Tar o Zend are grouped into another group B. They showed a similar game type. Kim o Gi, Seock o Il and Yang o Min are not included in the two groups. The above figure will be described with reference to "Results using the athlete evaluation formula of Table 13 according to the present invention". The group A is a player who was evaluated to have a higher attack addition and subtraction

points than a defense addition and subtraction points. The group B is a player who was evaluated to have a higher defense addition and subtraction point than an attack addition and subtraction point. Therefore, the players of the group A usually showed the attack-oriented type, and the players of the group B usually showed the defense-oriented type. Furthermore, Kim o Gi and Seock o Il obtained a low point. It is necessary to monitor may games of them, but Kim o Gi and Seock o Il participated in defense along with Yang o Min. Nevertheless, they did not obtain a high point in any part in the addition and subtraction factors.

As a result, although there are players who contributed to a team in view of attack and players who contributed to a team in view of defense, existing play record factors are not evaluated for defense, and factors to record error portions are lack from the viewpoint of attack. Thus, athlete evaluation covering both attack and defense has not been performed.

Table 15. Results using athlete evaluation formula of the present invention

Team	Player	Rank	Addition factor	Subtraction factor	Acquired point
Wonju TG	Jae o Cob	1	①854.10	197.75	656.35
Wonju TG	Regi Tar o Zend	2	②770.23	⑤219.01	551.22
Wonju TG	Shin o Sung	3	695.50	153.90	541.60
Wonju TG	Hea o Jae	4	③711.29	179.06	532.24
Cheongju SK	Jae o Jones	5	④703.83	176.73	527.11

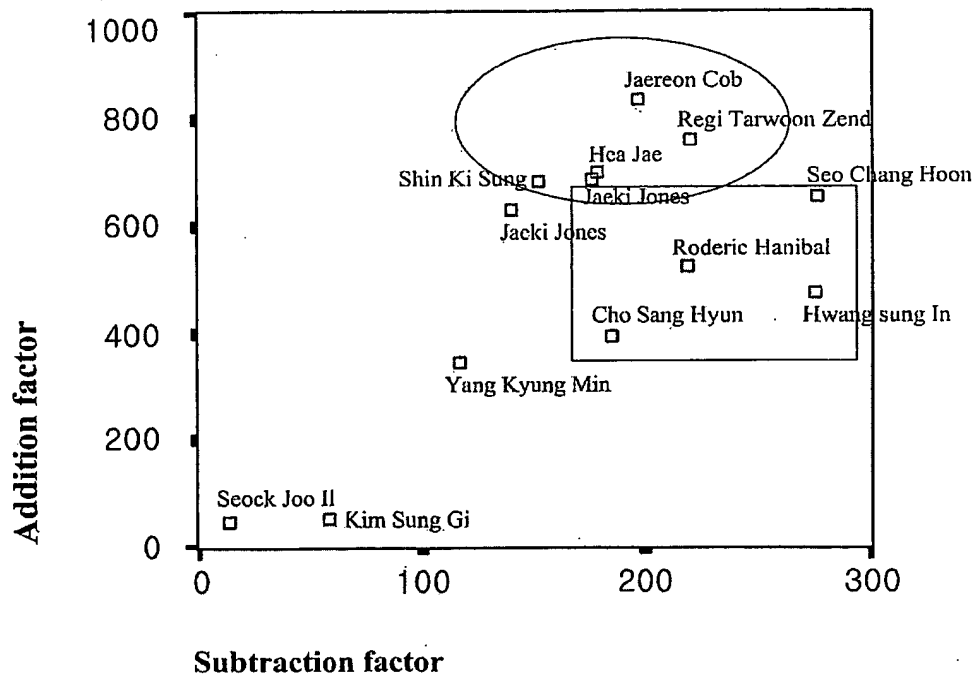
Cheongju SK	Seo o Hoon	6	666.63	②273.66	392.97
Cheongju SK	Roderic Ha o Bal	7	536.14	④218.33	317.81
Wonju TG	Yang o Min	8	357.28	119.13	238.16
Cheongju SK	Cho o Hyun	9	401.37	184.32	217.05
Cheongju SK	Hwang o In	10	483.35	①273.68	209.67
Cheongju SK	Seock o Il	11	50.95	13.50	37.45
Wonju TG	Kim o Gi	12	59.45	57.62	1.83

Table 15 shows that attack addition, attack subtraction, defense addition and defense subtraction of Table 14 are divided by addition factors and subtraction factors, and acquired points are calculated by subtracting the subtraction factors from the addition factors. The rank is decided on the basis of acquired points. From the above result, a player who has a high addition factor point showed a relatively low subtraction factor point, and a player who has a high subtraction factor point showed a relatively addition factor point.

[Fig. 2] below shows that the addition factor points and the subtraction factor points presented in Table 15 are dotted on a two-dimensional space. [Fig. 2] shows all participation players at the same time as the addition factor points and the subtraction factor points, helping to evaluate the players visually. As can be seen from [Fig. 2], a linear effect exists between the addition factor points and the subtraction factor points.

As can be seen from Table 15, the best player of Wonju TG showed better skills than players of Cheongju SK, and wined a victory. Further, considering that Wonju TG led Cheongju SK all the way of a game, it can be seen that the game factors and the game situation factors of the present invention and an application process thereto are proper.

[Fig. 2] Linearity for game results



Further, in step S15, the value of athletes is estimated according to the game contribution degree.

Therefore, as the 129 game factors and the 1277 game situation factors are subdivided through the value estimation method, and actual results of players are input, lots of situation factors are presented and are objectified on a

situation basis using weights, unlike the existing play record method that tries to describe lots of things with a small number of game factors. Thus, as meaningful underground factors can be found, a more efficient value estimation mode than the existing athlete contribution evaluation method is possible. In generating weights so as to evaluate the player contribution degree, the sensitiveness for the number is considered using the median without using an average as the representative value. Further, in order to represent the last analysis results similar to numerical values of goal scores, the weight is divided by 400. It is thus possible to increase the degree of the sensitivity for the number of players, and to reduce a feeling of refusal. It is thus possible to perform the qualitative evaluation of objectified players through the above method.

FIG. 6 is a flowchart illustrating a process of providing the degree of contribution data and sending settlement authentication and results in the method of estimating the value of athletes using the game achievement evaluation model according to another embodiment of the present invention.

As shown in FIG. 6, in step S20, a user, a baseball player, a baseball-related institute, a basketball ball club, a press (sports) institute, etc. have access to a web site within a manager server through each terminal. In step S21, the degree of contribution by players or the player ball clubs is searched

and selected. If contribution degree data for qualitative evaluation of the players or the player ball clubs are requested to the manager server through each terminal (step S22), the manager server requests a corresponding terminal or
5 server that requests the degree of contribution by the players to input a settlement number (credit card number, account number, etc.) (step S23). In step S24, the athletes, the player ball clubs, etc, that request the degree of contribution by the players input a settlement number (credit card number,
10 account number, etc.) in the web site within the manager server using a corresponding terminal or server. In this case, the settlement number can include a account number of a financial institute or a credit card number of a credit card company.

Then, in step S25, a corresponding settlement number that
15 requested the degree of contribution by the player in the manager server is requested for authentication to a financial institute/credit card company/mobile communication company-billing server. In step S26, the financial institute/credit card company/mobile communication company-billing server
20 compares a data of a corresponding server, and sends an authentication result to the manager server. If the manager server requests settlement to the settlement system server (step S27), the settlement system server settles through the credit card number, the account number, the mobile phone,
25 etc.(step S28). In step S29, the settlement system server

sends the settlement contents to the manager server. In step S30, the manager server sends the settlement contents to a corresponding terminal or server that requested the degree of contribution by the players through the communication service company server. In step S31, the communication service company server sends the settlement contents to a corresponding terminal or server, and sends the transmission results to the manager server.

Therefore, if the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institutes request the degree of contribution by players or player ball clubs, they have their settlement numbers authenticated in the financial institute/credit card company/mobile communication company billing server before payment. The payment system server pays, the communication service company server sends settlement information, transmission information, etc. to a corresponding terminal and server via e-mail, SMS of a mobile phone, a messenger or the like. Thus reliability with customers can be constructed.

While the present invention has been described with reference to the particular illustrative embodiments, it is not to be restricted by the embodiments but only by the appended claims. It is to be appreciated that those skilled in the art can change or modify the embodiments without departing from the scope and spirit of the present invention. That is, those

skilled in the art will understand that the present invention can be applied to players of soccer, baseball, volleyball, handball, etc.

5 Industrial Applicability

According to the present invention, unlike quantity-based record evaluation by the existing athlete contribution evaluation method, objectified quality evaluation can be performed in such a manner that with game situations being
10 classified into attack addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error), 129 game factors are named based on the classified factors, the assignment principle is set, the game factors are set to detailed 1277 game situation factors,
15 and the game factors and the game situation factors becomes numerical values.

Furthermore, the existing record input method is dependent upon quantitative record only, and thus does not include situation information on how player plays a game under
20 what situation. However, in a newly developed athlete evaluation formula, what achievements obtained by one athlete are generated in what situation can be exactly recorded. At the same time, the flow of a game can be traced. Moreover, by subdividing the 129 game factors and 1277 game situation
25 factors and inputting actual results of a player, lots of

situation factors can be presented unlike the existing play record method that tries to described lots of things with a small number of game factors. Thus, as meaningful underground factors can be found, a more efficient value estimation mode
5 than the existing athlete contribution evaluation method is possible. In generating weights so as to evaluate the player contribution degree, the sensitiveness for the number is considered using the median without using an average as the representative value. Further, in order to represent the last
10 analysis results similar to numerical values of goal scores, the weight is divided by 400. It is thus possible to increase the degree of the sensitivity for the number of players, and to reduce a feeling of refusal.

In addition, if a user, a baseball player, a baseball-
15 related institute, a basketball ball club and a press (sports) institutes request the degree of contribution by players or player ball clubs, they have their settlement numbers authenticated in the financial institute/credit card company/mobile communication company billing server before
20 payment. The payment system server pays, the communication service company server sends settlement information, transmission information, etc. to a corresponding terminal and server via e-mail, SMS of a mobile phone, a messenger or the like. Thus reliability with customers can be constructed.

What Is Claimed Is:

1. A system for estimating the value of athletes using a game achievement evaluation model, the system comprising:

5 a manager server having a function of receiving a member joining request when a user, a baseball player, a baseball-related institute, a basketball ball club and a press (sports) institutes have access to a web site in order to know the degree of contribution for qualitative evaluation of the

10 athletes or the athlete ball clubs for the purpose of annual salary calculation of professional athletes, the scout of amateurs and mercenary scout, an athlete draft, an athlete trade, etc., a function of registering members and assigning Ids to the members, a function of storing and managing the

15 members who joined the web site in a manager server DB, and a function of, with the degree of contribution by the athletes being classified into attack addition (contribution), attack subtraction (error), defense addition (contribution) and defense subtraction (error) according to game situations,

20 setting 129 game factors based on the classified factors, setting the game factors to detailed 1277 game situation factors, assigning numerical values to the game factors and the game situation factors with a different weight, and sending quantitative results to a corresponding server or terminal if

25 the user, the baseball player, the baseball-related institute,

the basketball ball club and the press (sports) institutes
request the results through the server or terminal;

a user terminal having a function of having access to a
web site within the manager server to make requests for member
5 joining in order to know the degree of contribution for
qualitative evaluation of the athletes or the athlete ball club
for the purpose of annual salary calculation of the
professional athletes, the scout of amateurs and mercenary
scout, the athlete draft, the athlete trade, etc., a function
10 of being assigned with an ID from the manager server after
becoming a member, and a function of requesting the degree of
quantitative contribution of the athletes to the manager server,
and receiving the degree of contribution data of the athletes;

a baseball player terminal having a function of having
15 access to a web site within the manager server to make
requests for member joining in order to know the degree of
contribution for qualitative evaluation of the athletes or the
athlete ball club for the purpose of annual salary calculation
of the professional athletes, the scout of amateurs and
20 mercenary scout, the athlete draft, the athlete trade, etc., a
function of being assigned with an ID from the manager server
after becoming a member, and a function of requesting the
degree of quantitative contribution of the athletes to the
manager server, and receiving the degree of contribution data
25 of the athletes;

a baseball-related institute server having a function of having access to a web site within the manager server to make requests for member joining in order to know the degree of contribution for qualitative evaluation of the athletes or the athlete ball club for the purpose of annual salary calculation of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server after becoming a member, and a function of requesting the degree of quantitative contribution of the athletes to the manager server, and receiving the degree of contribution data of the athletes;

a basketball ball club server having a function of having access to a web site within the manager server to make requests for member joining in order to know the degree of contribution for qualitative evaluation of the athletes or the athlete ball club for the purpose of annual salary calculation of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server after becoming a member, and a function of requesting the degree of quantitative contribution of the athletes to the manager server, and receiving the degree of contribution data of the athletes;

a press (sports) institute server having a function of

having access to a web site within the manager server to make requests for member joining in order to know the degree of contribution for qualitative evaluation of the athletes or the athlete ball club for the purpose of annual salary calculation
5 of the professional athletes, the scout of amateurs and mercenary scout, the athlete draft, the athlete trade, etc., a function of being assigned with an ID from the manager server after becoming a member, and a function of requesting the degree of quantitative contribution of the athletes to the
10 manager server, and receiving the degree of contribution data of the athletes;

a financial institute/credit card company/mobile communication company billing server having a function of receiving an authentication request for one or a plurality of
15 financial information, card information and mobile communication information, which are settlement numbers of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute, from the manager server, and a function of comparing one or a plurality
20 of financial information, card information and mobile communication information with information stored in a corresponding database among the financial institute server, the credit card company server and the mobile communication company billing server, and sensing the authentication result
25 to the manager server;

a payment system server having a function of receiving one or the plurality of the settlement numbers among the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute, who are
5 authenticated by the financial institute/credit card company/mobile communication company billing server, from the manager server, and a function of confirming the settlement number and then sending the settlement results to the manager server; and

10 a communication service company server having a function of receiving the degree of contribution information of the players and the settlement information from the manager server after being settled by the settlement system server, and a function of sending the degree of contribution information by
15 the players and the settlement information, which are received from the manager server, to a terminal, a user or a baseball player mobile phone of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute via e-mail, SMS of a mobile phone, a
20 messenger, etc.

2. The system as claimed in claim 1, wherein the manager server comprises:

a member subscription unit for allowing the user, the
25 baseball player, the baseball-related institute, the baseball

ball club, the press (sports) institute, etc. to request member joining through the server or terminal;

a member permission unit for authorizing the member joining, and then assigning an ID to the member;

5 a member information database (DB) for storing and managing members;

an athlete contribution degree database (DB) for storing and managing the degree of contribution by athletes;

a game factor unit including an attack addition game
10 factor unit indicating attack contribution portions such as team morale increase contribution addition generated by a game situation of an athlete, an attack subtraction game factor unit indicating attack error portions such as point acquisition cancellation error subtraction, a defense addition game factor
15 unit indicating defense contribution portions such as full possible losing point dissipation contribution addition, and a defense subtraction game factor unit indicating defense error portions such as full self-blame possible losing point error subtraction;

20 an 1277 game situation factor unit including an attack addition game situation factor unit indicating detailed items of attack addition game factors indicating attack contribution portions generated by a game situation of an athlete, an attack subtraction game situation factor unit indicating detailed
25 items of attack subtraction game factors indicating attack

error portions, a defense addition game situation factor unit indicating detailed items of defense addition game factors indicating defense contribution portions, and a defense subtraction game situation factor unit indicating detailed items of defense subtraction game factors indicating defense error portions;

a median setting unit for setting representative values for respective detailed items that constitute the game factor unit and the game situation factor unit;

10 a weight setting unit for multiplying the game factor median and the game situation factor median set in the median setting unit; and

a contribution degree calculation unit for calculating the degree of contribution by athletes based on a difference between addition factors including contribution factors for attack and defense addition to which weights are applied, and subtraction factors including error factors for attack and defense subtraction to which weights are applied.

20 3. A method of estimating the value of athletes using a game achievement evaluation model, wherein a member subscription process comprises the steps of:

allowing one or a plurality of a user, a baseball player, a baseball-related institute, a basketball ball club and a press (sports) institute to have access to a web site through a

manager server;

allowing one or a plurality of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute to make requests for
5 member joining to a member subscription unit;

allowing a member permission unit of the manager server to decide whether to allow authorization;

if the authorization is not allowed, allowing the member joining to be rejected, and if the authorization is allowed,
10 allowing the member joining to be allowed;

if one or a plurality of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute is allowed to be a member, allowing the manager server to assign IDs to one or a plurality
15 of terminals or servers of the user, the baseball player, the baseball-related institute, the basketball ball club and the press (sports) institute through the member permission unit;
and

allowing the manager server to store the Ids in the
20 member information database.

4. A method of estimating the value of athletes using a game achievement evaluation model, wherein a value calculation process comprises the steps of:

25 (a) allowing a game factor unit within a manager server

to set attack addition game factors of 41 items, attack subtraction game factors of 34 items, defense addition game factors of 30 items and defense subtraction game factors of 24 items;

5 (b) allowing a game situation factor unit within the manager server to set game situation factors of 1227 items for each of the items of the attack addition game factors, the items of the attack subtraction game factors, the items of the defense addition game factors and the items of the defense
10 subtraction game factors;

(c) allowing a median setting unit within the manager server to set the median for each of the game factors and the game situation factors under the game situation principle for the attack addition game factors, the attack subtraction game
15 factors, the defense addition game factors and the defense subtraction game factors;

(d) allowing a weight setting unit within the manager server to set weight for each of the game situation factors under the game situation principle for the attack addition game
20 factors, the attack subtraction game factors, the defense addition game factors and the defense subtraction game factors to (each game factor median × each game situation factor median) ÷ 400;

(e) allowing a contribution degree calculation unit
25 within the manager server to calculate the degree of game

contribution by the athletes from the game situation factors, the weight, etc, as addition factors (a game situation factor \times a corresponding weight) - a subtraction factor (a game situation factor \times a corresponding weight);and

- 5 (f) calculating the value of the athletes based on the degree of game contribution.

5. The method as claimed in claim 4, wherein in step (a), detailed items of the attack addition game factor unit include

10 full shooting capture ability contribution addition, shooting chance capture ability contribution addition, possible losing point removal contribution addition, full team morale-inspired contribution addition, team morale-inspired contribution addition, high degree-skill contribution addition, full

15 disadvantage overcome ability contribution addition, disadvantage overcome ability contribution addition, disadvantage overcome fail contribution addition, full point-possible securing contribution addition, score-possible providing contribution addition, score record cancellation-

20 considered contribution addition, full score chance ability loss contribution addition, point chance ability loss contribution addition, alternate score additional contribution addition, lucky score addition contribution addition, indirect chance fostering contribution addition, direct chance

25 assistance contribution addition, indirect chance sacrifice

contribution addition, direct chance sacrifice contribution
addition, athlete defense shrinkage contribution addition,
opponent team defense shrinkage contribution addition, attack
time re-application contribution addition, full point
5 cooperation contribution addition, point cooperation
contribution addition, teamwork completion cooperation
contribution addition, teamwork cooperation contribution
addition, positive participation contribution addition,
shooting chance cooperation contribution addition, full
10 shooting chance cooperation contribution addition, swift attack
cooperation contribution addition, full swift attack
cooperation contribution addition, possession acquisition
contribution addition, free throw possession ability
contribution addition, full possession acquisition contribution
15 addition, possession acquisition-side contribution addition,
score record acquisition contribution addition, opponent
teamwork degeneracy contribution addition, opponent team
formation obstruction contribution addition, opponent defense
disturbance contribution addition and right shooting timing
20 contribution addition;

detailed items of the attack subtraction game factor unit
include point acquisition cancellation error subtraction,
direction team-moral degeneracy error subtraction, indirect
team moral degeneracy error subtraction, possession-possible
25 chance removal error subtraction, possession loss providing

error subtraction, indirect possession loss providing error subtraction, possession loss-possible providing error subtraction, possible losing point providing error subtraction, indirect possible losing point providing error subtraction, 5 full possible losing point providing error subtraction, score-possible removal error subtraction, indirect score-possible removal error subtraction, full score chance dissipation error subtraction, indirect score chance dissipation error subtraction, general full score chance dissipation error subtraction, general indirect score chance dissipation error 10 subtraction, game basic capability lack error subtraction, score addition chance dissipation error subtraction, victory factor removal error subtraction, unreasonable shooting attempt error subtraction, right shooting timing lack error subtraction, 15 teamwork cooperation lack error subtraction, full teamwork cooperation lack error subtraction, positive participation lack error subtraction, full positive participation lack error subtraction, prediction ability lack error subtraction, personal defense shrinkage load error subtraction, team member 20 personal defense shrinkage load error subtraction, team defense shrinkage degeneracy error subtraction, teamwork lowering fostering error subtraction, teamwork formation obstruction error subtraction, instant chance cooperation lack error subtraction, opponent swift attack-possible chance assignment 25 error subtraction and opponent free throw-possible assignment

error subtraction;

5 detailed items of the defense addition game factor unit
include full possible losing point dissipation contribution
addition, possible losing point dissipation contribution
5 addition, full losing point allowance dissipation contribution
addition, possession acquisition-possible assignment
contribution addition, shooting fail factor assignment
contribution addition, full shooting fail factor assignment
contribution addition, shooting mental shrinkage contribution
10 addition, counter team morale lowering contribution addition,
direct the other party morale lowering contribution addition,
possible losing point previous removal contribution addition,
game rhythm interception contribution addition, teamwork
stability opponent assignment contribution addition, losing
15 point minimum-possible assignment contribution addition,
optimal defense ability contribution addition, full optimal
defense ability contribution addition, defense positive
participation contribution addition, full defense positive
participation contribution addition, teamwork assistance
20 contribution addition, error inducing factor assignment
contribution addition, full error-inducing assignment
contribution addition, score chance-possible assignment
contribution addition, full score-possible assignment
contribution addition, the other party personal defense
25 shrinkage contribution addition, opponent team defense

shrinkage contribution addition, defense confusion recovery
contribution addition, possession acquisition contribution
addition, opponent teamwork formation obstruction contribution
addition, opponent team member formation obstruction
5 contribution addition, swift attack-possible chance providing
contribution addition and positive sacrifice participation
contribution addition; and

detailed items of the defense subtraction game factor
unit include minimum self-blame losing point assignment error
10 subtraction, full self-blame losing point assignment error
subtraction, full self-blame possible losing point error
subtraction, maximum self-blame losing point assignment error
subtraction, countermeasure absence losing point error
subtraction, countermeasure absence possible losing point error
15 subtraction, countermeasure absence-inducing error subtraction,
assistance self-blame losing point-considered error subtraction,
assistance self-blame-possible losing point-considered error
subtraction, situation coping ability lack error subtraction,
assistance coping ability lack error subtraction, basic defense
20 ability lack error subtraction, indirect opponent team morale-
inspired error subtraction, direct opponent team morale-
inspired error subtraction, personal defense shrinkage error
subtraction, personal defense shrinkage fostering error
subtraction, team defense shrinkage fostering error subtraction,
25 mentality control ability lack error subtraction, opponent

teamwork consolidation chance providing error subtraction,
teamwork collapse curse providing error subtraction, possible
losing point increase-induced error subtraction, game flow
prevention ability lack error subtraction, team-pattern
5 confusion assignment error subtraction and team member
formation difficulty providing error subtraction 9.

6. The method as claimed in claim 4, wherein in step (b),
the game situation factors for the items of the attack addition
10 game factors, the items of the attack subtraction game factors,
the items of the defense addition game factors, and the items
of the defense subtraction game factors are divided into 7
items, 13 items, 21 items, 5 items, 9 items, 12 items and 4
items,

15 the 7 items are contribution in disadvantageous point
(over -7) situation, contribution in advantageous point (over
+7) situation, contribution in disadvantageous point seesaw
approach (-6 ~ -4) situation, contribution in advantageous
point seesaw approach (+6 ~ +4) situation, contribution in
20 disadvantageous point seesaw (-1 ~ -3) situation, contribution
in advantageous point seesaw (+1 ~ +3) situation and
contribution in tie situation;

the 13 items are contribution in disadvantageous point
(over -7) situation, contribution in advantageous (over +7)
25 situation, disadvantageous point seesaw approach (-6 ~ -4) entry

possible contribution in an advantageous point situation (over
 -7), disadvantageous point situation (over +7) entry-possible
 contribution in a disadvantageous point seesaw approach
 situation (+6 ~ +4), contribution within disadvantageous point
 5 seesaw approach (-6 ~ -4) in disadvantageous point seesaw
 approach (-6 ~ -4) situation, possible contribution within
 disadvantageous point seesaw approach (+6 ~ +4) in a seesaw
 approach (+6 ~ +4) situation, disadvantageous point seesaw
 situation (-1 ~ -3) entry-possible contribution in an
 10 advantageous point seesaw approach situation (-6 ~ -4),
 disadvantageous point seesaw approach situation (+6 ~ +4)
 entry-possible contribution in a disadvantageous point seesaw
 situation (+1 ~ +3), possible contribution within a
 disadvantageous point seesaw situation (-1 ~ -3) in a
 15 disadvantageous point seesaw situation (-1 ~ -3), possible
 contribution within a disadvantageous point seesaw situation
 (+1 ~ +3) in a disadvantageous point seesaw situation (+1 ~ +3),
 tie situation entry-possible contribution in a disadvantageous
 point seesaw situation (-1 ~ -3), disadvantageous point seesaw
 20 situation (+1 ~ +3) entry-possible contribution in a tie
 situation, and disadvantageous point seesaw situation (+1 ~ +3)
 entry-possible contribution in a disadvantageous point seesaw
 situation (-1 ~ -3);

the 21 items are Point in disadvantageous point (over -7)
 25 situation, Point in advantageous (over +7) situation, a

disadvantageous point seesaw approach (-6 ~ -4) entry point in
 an advantageous point situation (over -7), a disadvantageous
 point situation (over +7) point in a disadvantageous point
 seesaw approach (+6 ~ +4) situation, a point within a
 5 disadvantageous point seesaw approach (-6 ~ -4) in an
 advantageous point seesaw approach (-6 ~ -4) situation, a point
 within a disadvantageous point seesaw approach (+6 ~ +4) in a
 disadvantageous point seesaw approach (+6 ~ +4) situation, a
 disadvantageous point seesaw situation (-1 ~ -3) point in a
 10 disadvantageous point seesaw approach (-6 ~ -4) situation, a
 disadvantageous point seesaw approach situation (+6 ~ +4) point
 in a disadvantageous point seesaw situation (+1 ~ +3), a point
 within a disadvantageous point seesaw situation (-1 ~ -3) in a
 disadvantageous point seesaw situation (-1 ~ -3), a point
 15 within a disadvantageous point seesaw situation (+1 ~ +3) in a
 disadvantageous point seesaw situation (+1 ~ +3), a tie
 situation point in a disadvantageous point seesaw situation (-1
 ~ -3), a disadvantageous point seesaw situation (+1 ~ +3) point
 in a tie situation, a disadvantageous point seesaw situation
 20 (+1 ~ +3) point in a disadvantageous point seesaw situation (-1
 ~ -3), a tie point simultaneously with attack time end or
 quarter end in a disadvantageous seesaw situation (-1 ~ -3), a
 reverse point simultaneously with attack time end or quarter
 end in a disadvantageous seesaw situation (-1 ~ -3), a reverse
 25 point simultaneously with attack time end or quarter end in tie

situation, a tie point in last attack with game end time being left several seconds in a disadvantageous seesaw situation (-1 ~ -3), a reverse point in last attack with game end time being left several seconds in a tie situation, a tie point simultaneously with game end buzzer in a disadvantageous seesaw situation (-1 ~ -3), a reverse point simultaneously with game end buzzer in a disadvantageous seesaw situation (-1 ~ -3) and a reverse point simultaneously with game end buzzer in tie situation;

10 the 5 items are one foul record, a second foul record, a third foul record, a fourth foul record and a walkout foul record;

the 9 items are walk-out in extra game and one or more participation stops, walk-out after five minutes in the fourth quarter, walk-out before five minutes in the fourth quarter, walk-out after five minutes in the third quarter, walk-out before five minutes in the third quarter, walk-out after five minutes in the second quarter, walk-out before five minutes in the second quarter, walk-out after five minutes in the first quarter, and walk-out before five minutes in the first quarter;

20 the 12 items are shooting error in a disadvantageous point (over -7) situation, shooting error in an advantageous point (over +7) situation, shooting error in a disadvantageous point seesaw approach (-6 ~ -4) situation, shooting error in a disadvantageous point seesaw approach (+6 ~ +4) situation,

shooting error in a disadvantageous point seesaw situation (-1 ~ -3), shooting error in a disadvantageous point seesaw situation (+1 ~ +3), shooting error in a tie situation, tie shooting error in the last attack with several seconds being left before a game ends in a disadvantageous point seesaw situation (-1 ~ -3), reverse point shooting error in the last attack with several seconds being left before a game ends in a tie situation, tie shooting error simultaneously with a game end buzzer in a disadvantageous seesaw situation (-1 ~ -3),
5 reverse point shooting error simultaneously with a game end buzzer in a disadvantageous seesaw situation (-1 ~ -3), and reverse point shooting error simultaneously with a game end buzzer in a tie situation; and

the 4 items are an advantageous and disadvantageous
15 situation (over ± 7 points), an advantageous and disadvantageous seesaw approach situation ($\pm 6 \sim \pm 4$ points), an advantageous and disadvantageous seesaw situation ($\pm 3 \sim \pm 1$ points), and contribution in a tie situation.

20 7. A method of estimating the value of athletes using a game achievement evaluation model, wherein a process of providing the degree of contribution data and transmitting settlement authentication and results comprises the steps:

allowing a user, a baseball player, a baseball-related
25 institute, a basketball ball club, a press (sports) institute,

etc. to have access to a web site within a manager server through each terminal;

allowing the user, the baseball player, the baseball-related institute, the basketball ball club, the press (sports) institute, etc. to search and select the degree of contribution
5 of the athletes or the player ball clubs;

allowing the user, the baseball player, the baseball-related institute, the basketball ball club, the press (sports) institute, etc. to make requests for the degree of contribution
10 data for qualitative evaluation of the athletes or the player ball clubs to the manager server through the terminal;

allowing the manager server to input a settlement number (a credit card number, an account number, etc.) to a corresponding terminal or server that request the degree of
15 contribution by the athletes;

allowing athletes, player ball clubs, etc. who request the degree of contribution by the athletes to input the settlement number (a credit card number, an account number, etc.) in a web site within a manager server using a
20 corresponding terminal or server;

allowing the manager server to make requests for authentication of a corresponding settlement number that requests the degree of contribution by the athletes to a financial institute/credit card company/mobile communication
25 company-billing server;

allowing the financial institute/credit card company/mobile communication company-billing server to compare the requested settlement number and a settlement number stored in a database of a corresponding server, and then to send the authentication result to the manager server;

allowing the manager server to make requests for settlement to a settlement system server;

allowing the settlement system server to settle accounts to the credit card number, the account number, the mobile phone finance, etc.;

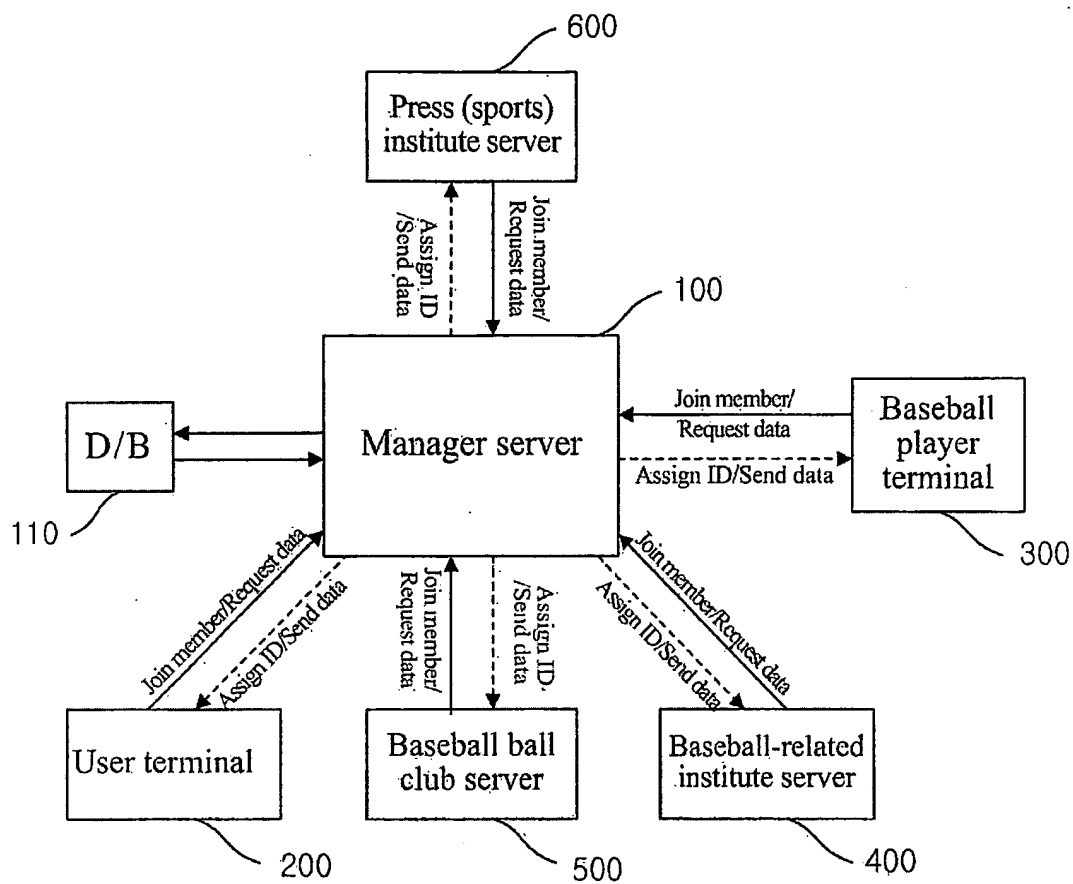
allowing the settlement system server to send the settlement contents to the manager server;

allowing the manager server to send the settlement contents to a corresponding terminal or server that requests the degree of contribution by the athletes through a communication service company server; and

allowing the communication service company server to send the settlement contents to a corresponding terminal or server, and then to send the transmission results to the manager server.

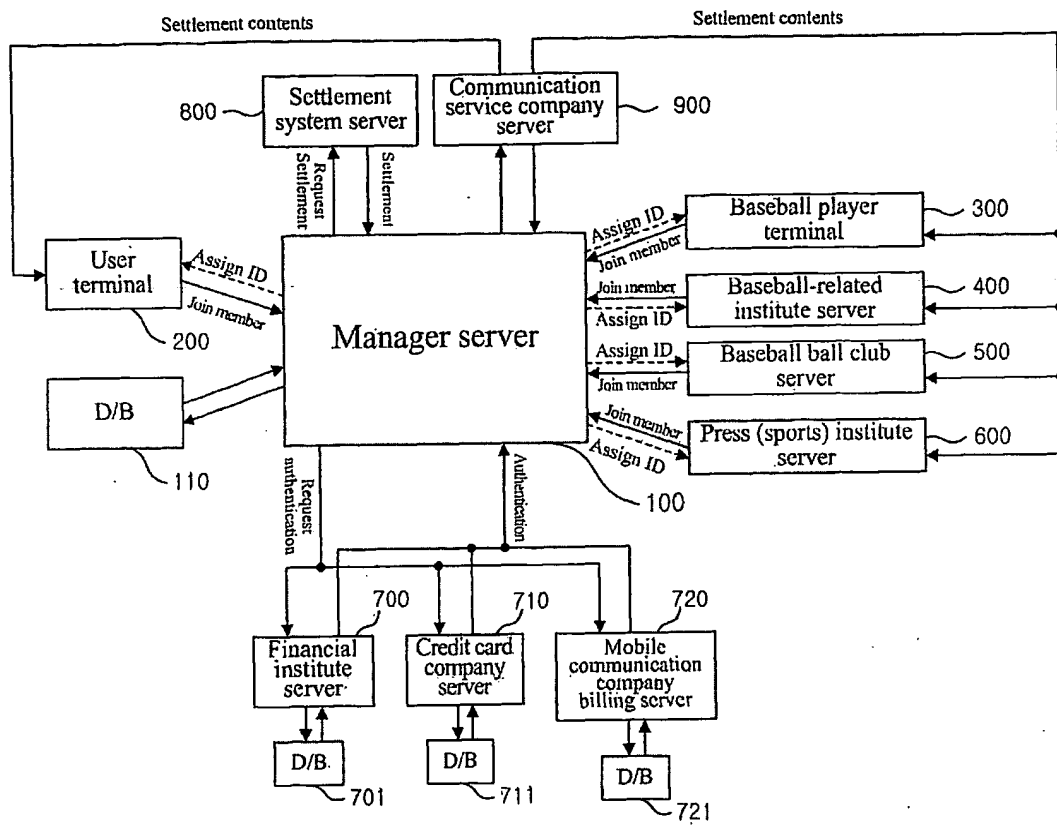
1/6

FIG. 1



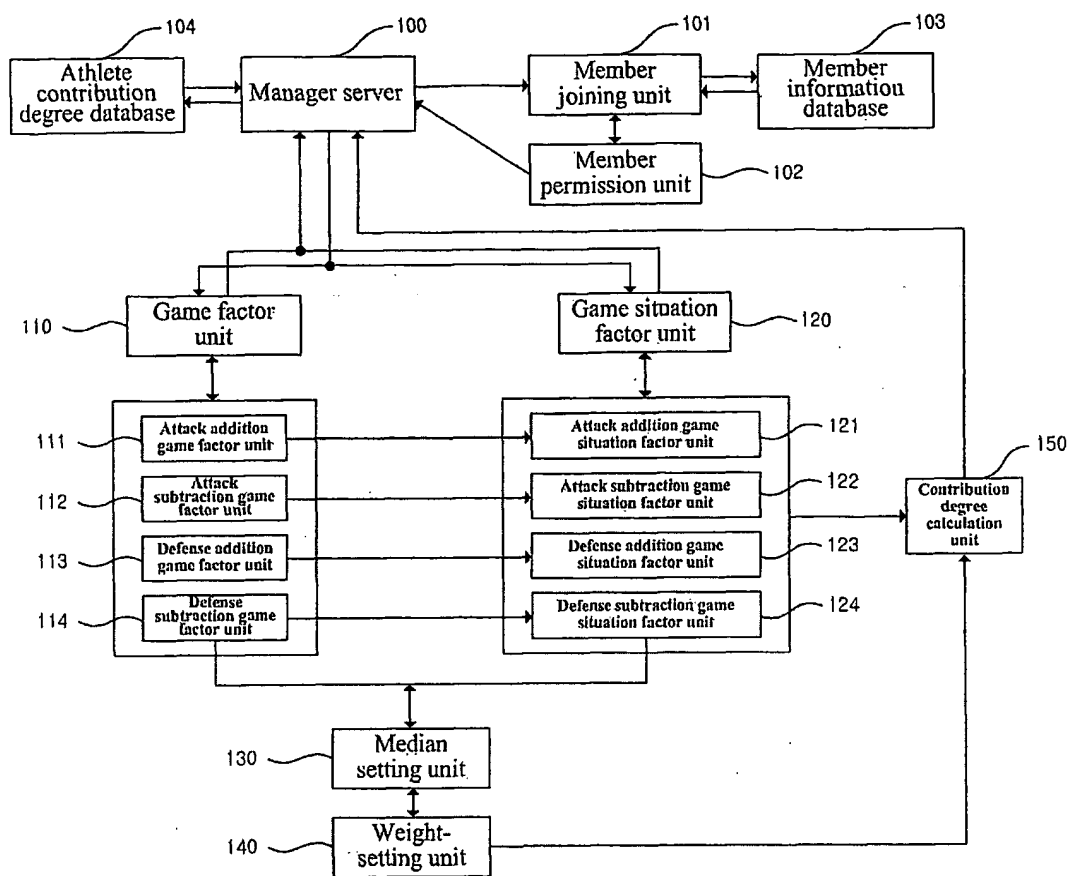
2/6

FIG. 2



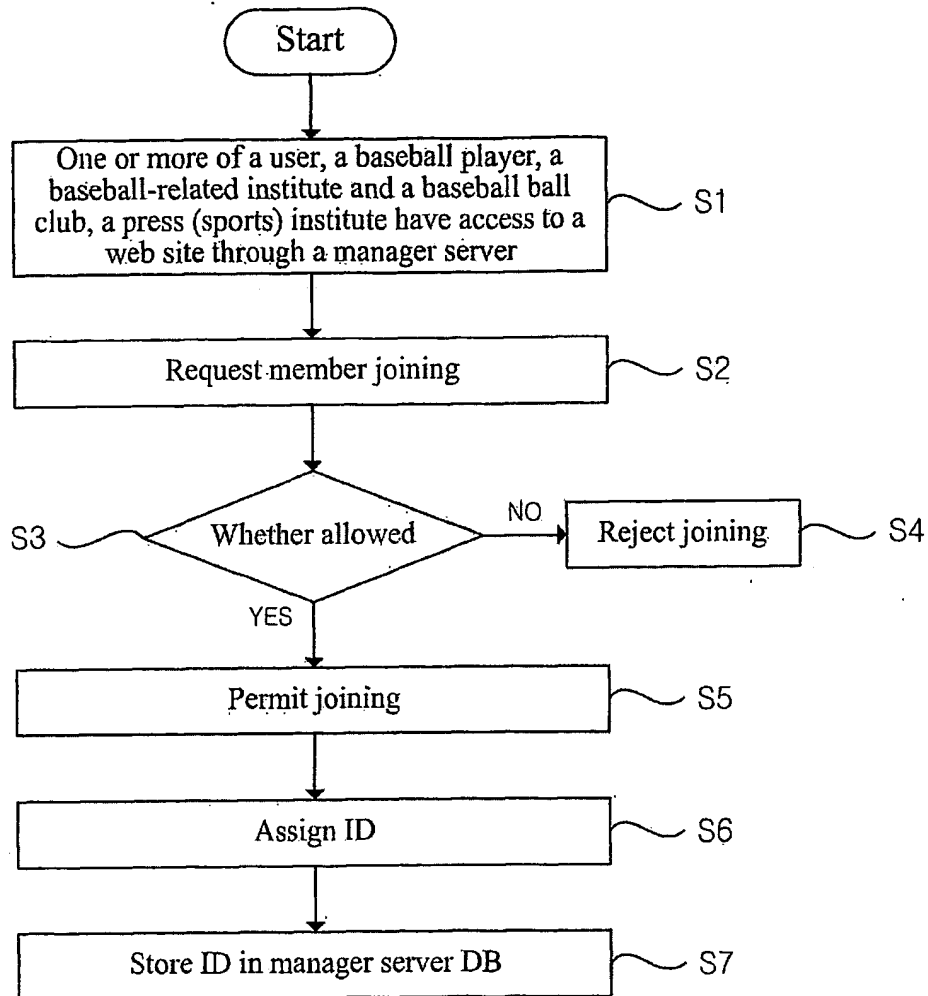
3/6

FIG. 3



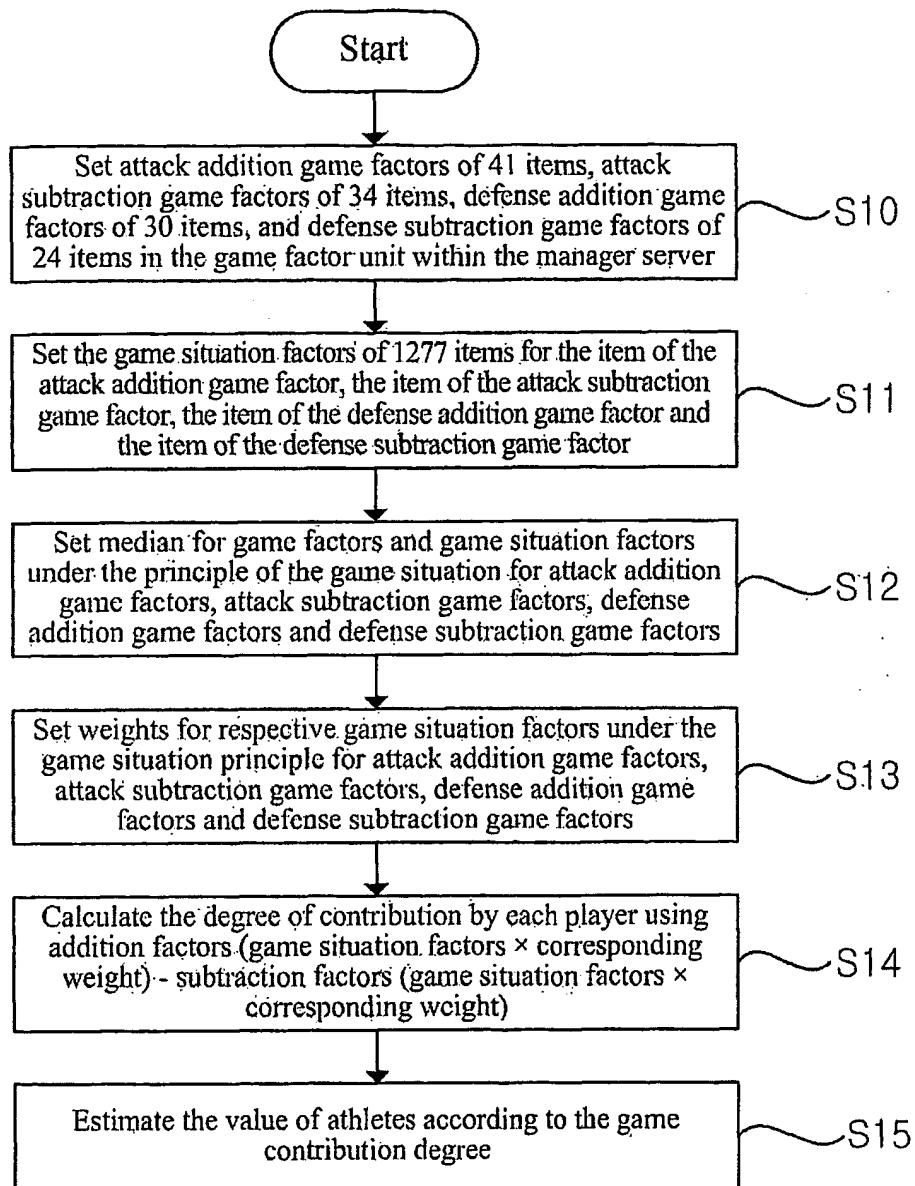
4/6

FIG. 4



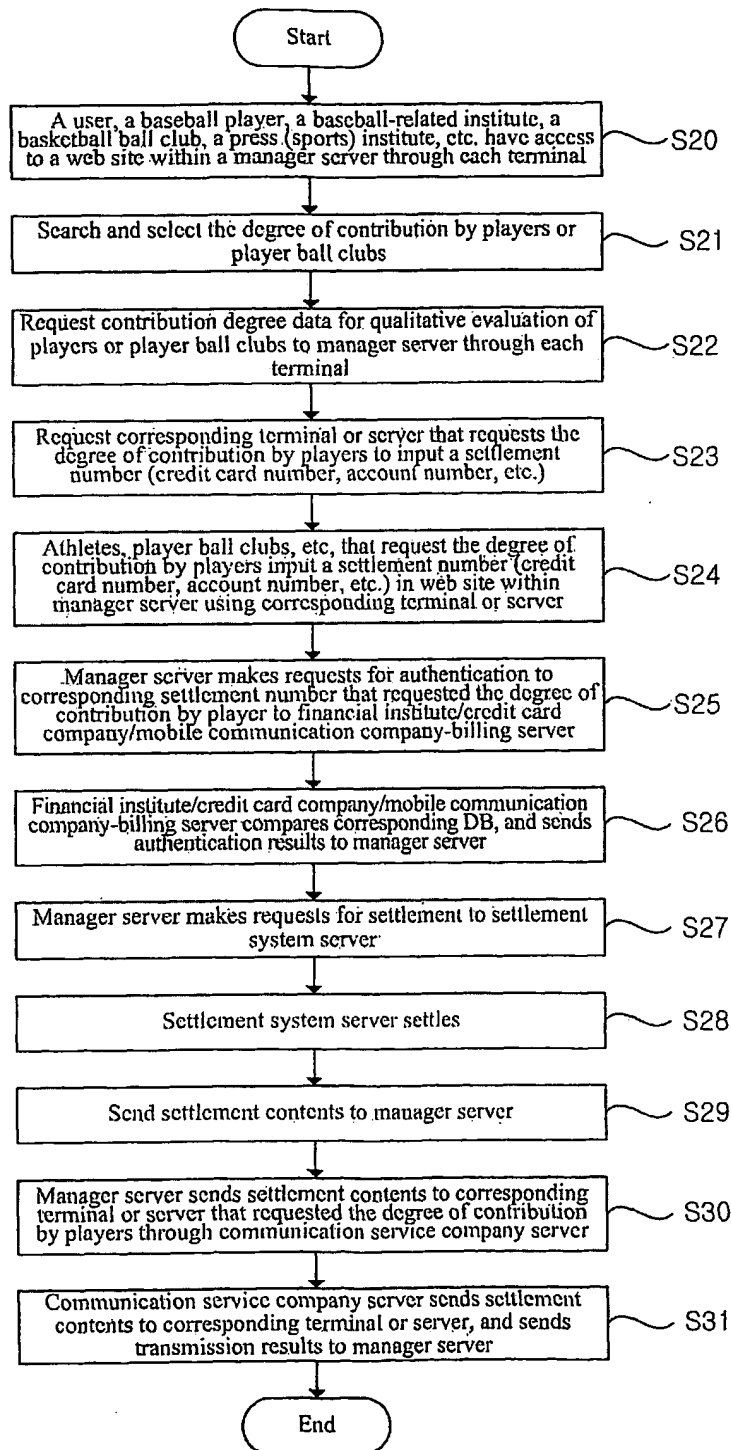
5/6

FIG. 5



6/6

FIG. 6



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2005/000998**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 G06F 17/00**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G06F 17/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

KIPOnet DB ; physical* & training* & estimat*

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 15-33461 A (THREE SEA ELECTRONICS INC.) 4 FEB. 2003 SEE THE WHOLE DOCUMENTS	3,4,7
Y	KR 2001-44677 A (GIWORKS SPORTS INC.) 5 JUN. 2001 SEE THE WHOLE DOCUMENTS	3,4,7
A	JP 14-239231 A (SRB INC.) 27 AUG. 2002 SEE THE WHOLE DOCUMENTS	1-7

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

28 JULY 2005 (28.07.2005)

Date of mailing of the international search report

28 JULY 2005 (28.07.2005)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

JEONG, Jae Hoon

Telephone No. 82-42-481-5787

